SERVICE MANUAL



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

TC-V70WR:

US Model Canadian Model AEP Model UK Model E Model

TC-V710WR:

AEP Model UK Model E Model

TC-V70WR are a stereo double cassette deck in LBT-V70WR, respectively.

Town Turney Machaniam Type	DECK A	TC-CMFYA2
Tape Transport Mechanism Type	DECK B	TC-CMFYB2

SPECIFICATIONS

TC-V70WR

Recording system 4-track 2-channel stereo Frequency response

DOLBY NR OFF (DIN)
With TYPE IV cassette
(Sony METAL-ES)
30 - 15,000 Hz (±3 dB)

With TYPE II cassette (Sony UCX-S)

30 - 14,000 Hz (±3 dB)

With TYPE I cassette (Sony HF-S)

30 - 13,000 Hz (±3 dB)

Wow and flutter

0.08% WRMS (NAB)

0.2% (DIN)

Dimensions

Approx. 355 × 120 × 275 mm (w/h/d)

(14 × 4³/₄ × 10⁷/₈ inches)

incl. projecting parts and controls

Weight

Approx. 4 kg (8 lb 14 oz) net

TC-V710WR

PHOTO: TC-V70WR

Recording system

4-track 2-channel stereo

Fast-forward and rewind time

Approx. 90 sec. (with C-60 cassette)

Bias frequency 105 kHz

Signal-to-noise ratio (NAB, at peak level)

Dolby NR switch Cassette	OFF	B-TYPE ON	C-TYPE ON
TYPE IV (Sony METAL-ES)	58 dB	65 dB	71 dB
TYPE II (Sony UCX-S)	57 dB	64 dB	70 dB
TYPE I (Sony HF-S)	54 dB	61 dB	67 dB

Continued on page 2 —

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE \(\frac{\hat{\Lambda}}{2}\) SUR LES DIAGRAMMES SCHÉ-MATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REM-PLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK

^ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



STEREO DOUBLE CASSETTE DECK SONY.

TC-V70WR/V710WR

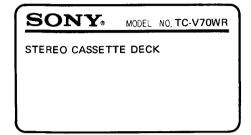
Total harmonic di		T	ABLE OF CONTENTS	
Frequency respon	1.0 % (with Sony METAL-ES cassette)			
r requericy respon	DOLBY NR OFF	Section	Title	Dag
	With TYPE IV cassette (Sony METAL-ES)	Bection	<u>Title</u>	Page
	20 — 16,000 Hz	a		
	30 — 15,000 Hz (±3 dB)			
	30 — 13,000 Hz (±3 dB, 0 VU recording)	Model Identifica	tion	
		Safety Check-ou	t	
	 With TYPE II cassette (Sony UCX) 		trols	
	20 — 15,000 Hz			
	30 — 14,000 Hz (±3 dB)			
	•With TYPE I cassette (Sony HF-S)			
	20 — 14,000 Hz			
	30 — 13,000 Hz (±3 dB)		••••••	
Wow and flutter	0.08 % WRMS (NAB)		• • • • • • • • • • • • • • • • • • • •	
	±0.2 % (DIN)		·	
Inputs	Line inputs (phono jacks)		rse	
	Sensitivity 77.5 mV (-20 dB)	Tape Dubbing		10
	Input impedance 47 kilohms	Auto Dubb	oing	10
Outputs	Line outputs (phono jackts)	Auto Pause	.	10
	Output level 0.44 V (-5 dB) at load		oing	
	impedance 47 kilohms		bbing	
	Load impedance over 10 kilohms			
	Headphone output (stereo phone jack) Output level –28 dB at a load impedance			
	of 8 ohms	Connections		
		SECTION 1 OF	T LINE	1:
General				
Power requiremer			Description	
	P model: 220 V ac (240 V ac adjustable by authorized Sony personnel)	1-2. Block D	iagram	22
U	K model: 240 V ac (220 V ac adjustable by authorized Sony personnel)	SECTION 2. DIS	SASSEMBLY	25
	E model: 120, 220 or 240 V ac adjustable	SECTION 3 AD	JUSTMENTS	20
Power consumpti			cal Adjustments	
Dimensions	23 watts Approx. 355 × 120 × 270 mm (w/h/d)			
Diriterisions	(14 × 4 ³ / ₄ × 10 ³ / ₄ inches)	3-2. Electrica	al Adjustments	29
	including projecting parts and controls			
Weight	Approx. 4.7 kg (10 lbs 6 oz)		AGRAMS	
3	7,44	4-1. Mountin	ng Diagram	34
		4-2. Schemat	tic Diagram	
		- System	m Control Section	39
		4-3. Schemat	tic Diagram	
		– Audio	Section –	44
		4-4. Schemat		
			Sircs Section	40
		- KW3,	ones accholl	
			PLODED VIEWS AND	
		PA	RTS LIST	51

SECTION 6. ELECTRICAL PARTS LIST57

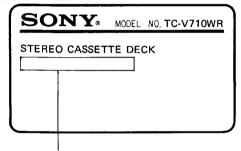
MODEL IDENTIFICATION

- Specification Label on Jack Plate -

TC-V70WR



TC-V710WR



AEP model: 220V ~50/60Hz 23W UK model: 240V ~50/60Hz 23W

E model : 120, 220, 240V ~50/60Hz 23W

SAFETY CHECK-OUT (US Model)

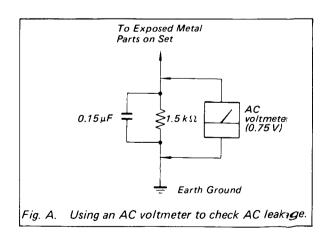
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

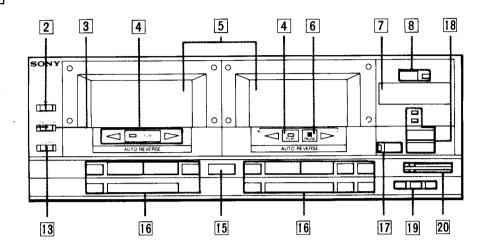
- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- 2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



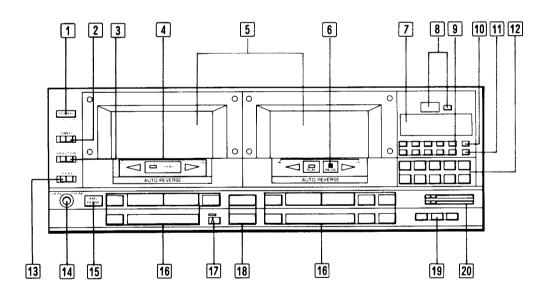
TC-V70WR/V710WR

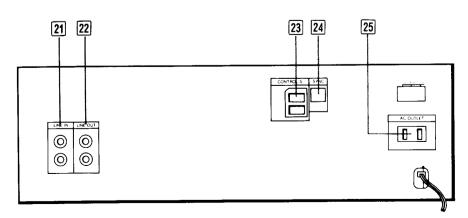
FUNCTION OF CONTROLS

TC-V70WR



TC-V710WR





1 POWER switch (TC-V710WR)

This turns the power on or off.

2 TIMER switch (deck B)

You can set the unit to record or playback at a predetermined time by connecting any commercially available timer.

3 DIRECTION MODE switch

Set this switch to select the mode of tape movement.

- (one-direction): To record or play back one side of the cassette
- (one-cycle): To record or play back both sides of the cassette once. If the switch is set to this position when the reverse side of the cassette is being recorded or played back, the tape will stop at the end of that side.
- (continuous-cycle): To record on both side of a cassette or to repeat playback of both sides endlessly.

4 Tape operation mode indicators

- REV indicator
- PLAY indicator
- ➤ FWD indicator

5 Cassette holders

6 II PAUSE indicator

Illuminates when the II button is pressed. When the power is supplied, the indicator flickers for a few seconds in standby mode.

7 PEAK LEVEL METERs

These meters show the peak input level of each channel during recording, and recorded levels during playback. The left-most LED of each meter lights when the power is turned on.

8 TAPE COUNTER and reset button (deck B)

The tape counter provides a numerical reference point. To reset to zero, press the reset button.

9 RMS indicators (TC-V710WR)

10 RMS CLEAR button (TC-V710WR)

Press this button to clear the memory contents of RMS function.

11 RMS CHECK button (TC-V710WR)

Press this button to check the memory contents of RMS function.

12 RMS buttons (TC-V710WR)

Press numbered button to memorize your selections in a cassette tape. The corresponding indicators will light up.

13 DOLBY NR switch

Select the Dolby NR* (Noise Reduction) system to be used for recording or playback.

- OFF: To record or play back without the Dolby NR process.
- B: To record or play back with the Dolby B-type NR process.
- C: To record or play back with the Dolby C-type NR process.
- Dolby and the double-D symbol are trade marks of the Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

14 HEADPHONES jack

15 AMS/BLANK SKIP button

Press to activate the AMS(Automatic Music Sensor) and blank skip function on decks A and B. To deactivate, press the button again.

16 Tape operation buttons

- ▲ (eject) button
- ◄ (fast-reverse) button
- ◄ (reverse play) button
- (stop) button
- ▶ (forward) button
- ▶► (fast forward) button
- (record) button (deck B)

To start recording, keeping this button pressed, press the

→ or ◀ button.

(record muting) button (deck B)

II (pause) button (deck B)

Press to stop the tape momentarily during recording or playback. To disengage pause mode, press it again.

17 AUTO PAUSE button and indicator

Press this button when editing in normal speed dubbing.

18 Dubbing speed buttons and indicators

HIGH SPEED: Press for high speed dubbing. **NORMAL SPEED:** Press for normal speed dubbing.

19 TAPE SELECT buttons (deck B)

Press one of these buttons to select the type of cassette to be used.

NORMAL: For normal tapes.

CrO2: For CrO2 tapes.

METAL: For metal tapes.

Tape type	TAPES (C46-C90)
TYPE I (NORMAL)	SONY: HF, EF, CHF, HF-S Other TYPE I equivalent tapes (For 120 µs and NORMAL BIAS)
TYPE II (CrO ₂)	SONY: UCX, UCX-S, UX, UX-S, UX-ES, UX-PRO Other TYPE II equivalent tapes (For 70 µs and HIGH BIAS)
TYPE IV (METAL)	SONY: METAL-ES Other TYPE IV equivalent tapes (For 70 µs and METAL BIAS)

TC-V70WR/V710WR

20 REC LEVEL (recording level) controls

Adjust the recording level by observing the PEAK LEVEL METERs.

21 LINE IN (line inputs) jacks (phono jack)

Accepts tape outputs of an amplifier for tape recording and line outputs of another tape deck when duplicating a tape from that unit.

[22] LINE OUT (line outputs) jacks (phono jack)

Accepts tape inputs of an amplifier for playing back a tape and line inputs of another tape deck for duplicating a tape onto that unit.

The signal is not output at LINE OUT jacks even when the lack key is pressed.

23 CONTROL S connectors

IN: Use this connector for total audio system remote control. For details, refer to the Operating Instructions of the optional Sony AVH-910 audio/video selector.

OUT: Use this connector for total audio system remote control. For details, refer to the Operating Instructions of the optional Sony AVH-910 audio/video selector.

24 SYNC connector

For synchro recording, connect to the SYNC connector of the turntable system. For further details, refer to the instruction manual of the Sony turntable system PS-LX910.

25 AC OUTLET (unswitched)

This ac outlet is not controlled by the POWER switch. Connect an audio component whose total power consumption is less than 100 watts.

Note

The unswitched socket outlets remain live, independently of power switch setting, at all times when the unit is connected to the mains supply.

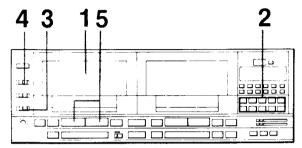
FEATURES

- Double-reverse system with deck A for playback only and deck B for recording/playback.
- RMS (Random Music Sensor) editing/dubbing for deck B and RMS playback function for deck A. (TC-V710WR)
- Tape dubbing function with two speeds available (HIGH and NORMAL)
- AMS (Auto Music Sensor)/BS (Blank Skip) function (for both decks) to facilitate easier editing
- AUTO PAUSE function for making an original music tape of your own
- QUICK REVERSE function for deck B.
- DOLBY B/C type noise reduction system.
- Relay playback function to perform continuous play on deck A and B
- Wireless remote control function (with CONTROL S IN/OUT terminal) (TC-V710WR)
- Synchronized remote control available (TC-V710WR)
- Auto Tape Selector for automatically identifying the type of tape used (deck A)

TAPE PLAYBACK (deck A or B)

RMS PLAY(Deck A) Random Music Sensor (TC-V710WR)

This function allows you to play your favorite selections in a desired order by detecting blank between selections.



- 1 Insert a recorded cassette into the deck A.
- **2** Press the RMS buttons according to your selection. The corresponding indicators will light up.
- **3** Set the DOLBY Switch to the appropriate position.
- **4** Set the DIRECTION MODE switch to the appropriate position.
- 5 To play back the front side: Press the ▶ button. To play back the reverse side: Press the ◄ button.
- 6 Adjust the volume of the amplifier.

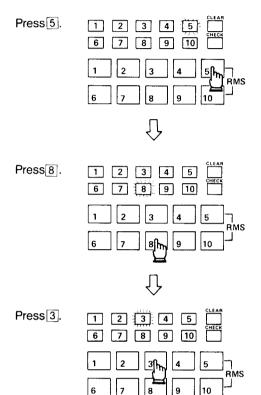
To check the memorized selections

Press the RMS CHECK button. The indicator illuminates in the order of selection.

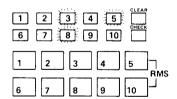
To clear the memorized selections

Press the RMS CLEAR button.

Ex. To play the selections No. 5, 8 and 3.



The selections No.5, 8 and 3 have been memorized and the corresponding indicators light up.

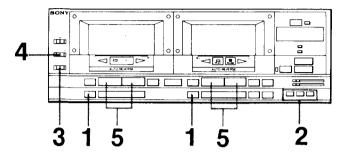


Note

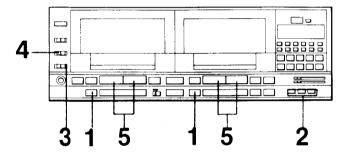
Do not press the ◀ or ▶ button on deck B during RMS operation on deck A. If you do so, RMS play may malfunction.

RELAY PLAY (from deck A to B or B to A)

(TC-V70WR)



(TC-V710WR)



- 1 Press the ≜ button of both decks and insert a recorded cassette into both cassette holders.
- **2** For deck B, press one of the TAPE SELECT buttons to select the type of cassette to be used.
- **3** Set the DOLBY NR switch to the same position as was used when the cassette was recorded.
- **4** Set the DIRECTION MODE switch to the appropriate position.

To relay playback on one side: ≠

To relay playback on both sides: -

To relay playback continously on both sides: 🗢

5 Press the ▶ or ◀ button either on deck A or B. Relay playback begins.

To relay playback only one side

After playing the side selected for deck A (or deck B), the side of the other deck which is indicated by the tape operation mode indicator (◀ or ▶) will be played and then stopped.

To relay playback on both sides

After playing the both sides of deck A (or deck B) (or when the ◀ button is pressed, after playing one side only), the front side and the reverse side of the other deck will be played in that order.

This operation is repeated when relay playback continuously on both sides is selected.

More than 3 tapes can be playd back continuously.

When this is done, replace the reproduced tape with new one.

Note

- Be sure to set the TIMER switch OFF before turning ON the power.
- Once the relay playback is stopped, this function will be reset.
- To resume this function, press the \blacksquare button on either deck and start again.
- If either of the decks starts playing with a tape in the other one, relay playback may be excuted.

AMS PLAY (decks A and B)

During playback, use the Automatic Music Sensor(AMS) to locate the beginning of the selection being played or the following selection.

During playback of the front side

- 1 Press the AMS button. The AMS indicator lights.
- 2 Press the ■ button to repeat the selection being played or press the button to play the next selection.

During playback of the reverse side

- 1 Press the AMS button.
- 2 Press the ▶ button to repeat the selection being played or press the ◄ button to play the next selection.

Notes on the blank spaces

- Since AMS works by searching out the blank spaces on a tape, it may not operate if there is noise in the space between selections, or if the space is less than 4 seconds long. The record muting facility of this cassette deck can make a four second blank space that will assure AMS operation on any recorded tape.
- If the recorded music includes a long pause, or if it continues for a time at sufficiently low volume, as may happen for instance with classical music, the AMS will treat it as a blank.
- The AMS can be activated for deck A or B, according to the deck on which the ◄◄ or ►► button is pressed first.

BLANK SKIP (decks A, B)

Press the AMS/BLANK skip button to let the cassette deck automatically go into fast-forward mode where there is a blank about 10 seconds long or more.

Playback begins when a new selection begins.

Note

The blank skip function can be activated for deck A prior to deck B.

If the \blacktriangleleft or \blacktriangleright key of deck A is pressed while the other deck is in blank skip playback mode, the blank skip operation is interrupted.

When the beginning of the selection is located, deck B goes into blank skip mode.

QUICK REVERSE (deck B)

When the recording or playback on the front side is finished, the quick reverse sensor will detect the leader tape and change to the other side. Therefore, recording or playback without any interrupt can be done. (Quick reverse does not work from the reverse side to the front side.)

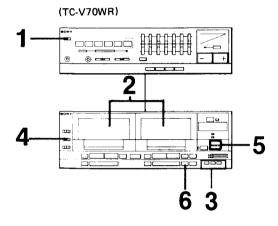
Note

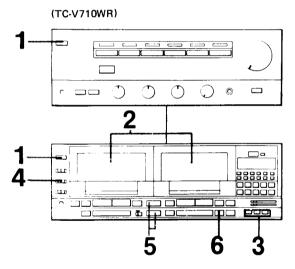
Do not expose the cassette holder to strong light such as direct sunlight while recording or playback. If the sensor in the head unit receives such strong light, the quick reverse function may work erroneously.

TAPE DUBBING (from deck A to deck B)

AUTO DUBBING

Deck B automatically begins to record when deck A begins playback. Recording level adjustment and Dolby NR setting are not necessary.





- 1 Press the POWER switches.
- 2 Insert a recorded cassette into deck A and the cassette to be dubbed into deck B.
- **3** For deck B, press one of the TAPE SELECT buttons to select the type of cassette to be used.

4 Set the DIRECTION MODE switch to the appropriate position.

For one side dubbing using the tapes with the same length:

For both side dubbing using the tapes with different length:

For both side dubbing using the tapes with the same length:

5 Press the DUBBING button.

For normal speed dubbing: NORMAL SPEED (completion and high quality)
For high speed dubbing: HIGH SPEED (time saving)

6 Press the II button. Dubbing begins.

To stop the dubbing, press the ■ button of deck B. When the tape of deck A or B reaches the end, both decks shut off automatically.

Notes

- The DUBBING button is activated only when both decks A and B are in stop mode.
- During high speed dubbing, only the button on deck B is operative while the ▶▶, ◄◄, ▶, ◄ or button on deck A is operative as well as the button on deck B.
- The indicator of the NORMAL SPEED button blinks and auto dubbing does not start.
- During recording or dubbing, the sound is sometimes impaired by a TV set. In this case, move the TV set away from the stereo system.

AUTO PAUSE

During normal speed dubbing, use the AUTO PAUSE function to stop the deck A and make the deck B REC/PAUSE condition every time a selection on the deck A ends. You can arrange the selections recorded on the tape in the deck A as you want for recording on the tape in the deck B.

- 1 After pressing the NORMAL SPEED button in step 5 of "Auto dubbing", press the AUTO PAUSE button. The AUTO PAUSE indicator lights.
- 2 When the selection on the deck A ends, the deck A will stop and the deck B will be in the REC/PAUSE condition.

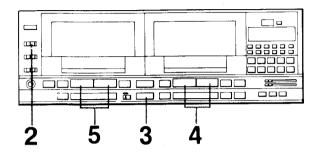
 Then, search a next selection to be recorded by using the

 do r b buttons or by AMS function on the deck A.
- 3 Press the II button on the deck B to restart the recording. Repeat the above steps as many times as you want.

Note

This function cannot be activated in HIGH SPEED dubbing mode.

RMS DUBBING (Deck A for RMS playback/Deck B for recording) (TC-V710WR)



After performing step 4 in "Manual dubbing" proceed as follows.

- 1 Select desired selections by the procedure in "RMS play" on page 7.
- 2 Set the DIRECTION MODE switch to the appropriate position.
- 3 Press the NORMAL SPEED button.
- 4 Press the ◀ or ▶ button on deck B to select the side of the cassette to be record.
- 5 Press the

 or

 button on deck A.

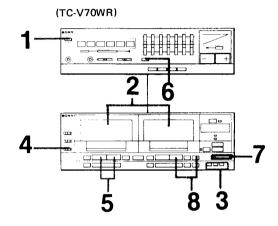
 The tape deck now starts dubbing with RMS function and you can record your selections only on the tape in deck B.

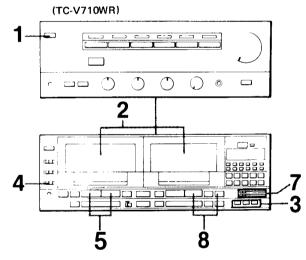
Note

- While reading between selections, the deck for recording will pause.
- When the deck B is in recording mode, deck A will stop and the RMS function will be reset.

MANUAL DUBBING

The sound of deck A can be recorded onto deck B with the desired tone quality by adjusting the graphic equalizer controls.





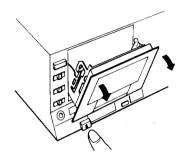
- 1 Press the POWER switch.
- 2 Insert a recorded cassette into deck A and the cassette to be dubbed into deck B.
- 3 For deck B, press one of the TAPE SELECT buttons to select the type of cassette to be used.
- 4 Set the Dolby NR switch to OFF.
 - * The Dolby NR process is not effective on deck B during playback on deck A and recording or playback on deck A. Therefore, it is recommended to record without the process.
- 5 Play back the cassette of deck A.
- **6** Press the EQ switch and adjust the tone with the GRAPHIC EQUALIZER controls.
- 7 Adjust the recording level with the REC LEVEL controls.
- 8 Keeping the REC button pressed, press the ▶ button of deck B. Dubbing begins.

MAINTENANCE

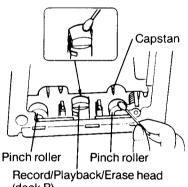
CLEANING THE HEADS AND TAPE PATH (decks A and B)

Cleaning after every 10 hours of operation. To make the best possible recordings, however, you should clean all surfaces over which the tape travels before every recording.

1 Press the ≜ button to open the cassette holder. Remove the window as illustrated.



2 Wipe the heads, the pinch roller and the capstan with a cleaning tip slightly moistened with tape cleaning fluid or rubbing alcohol.



(deck B) Playback head (deck A)

3 Replace the window.

After cleaning the heads and tape path, do not insert a cassette until the areas cleaned are completely dry.

CONNECTIONS

CONNECTION NOTES (TC-V70WR)

Supplied flat cord connection

• Be sure to insert the cord securely.



To disconnect the cord, press the center tab and pull out the connector. Do not pull the cord itself.



SECTION 1 OUTLINE

1-1. CIRCUIT DESCRIPTION

IC501

IC501 (M50742-404) is a 4 bit microcomputer which controls the mechanism, does key input and LED display. The pin functions, key matrix and LED matrix descriptions follow.

Table 1. IC 501 Pin Functions

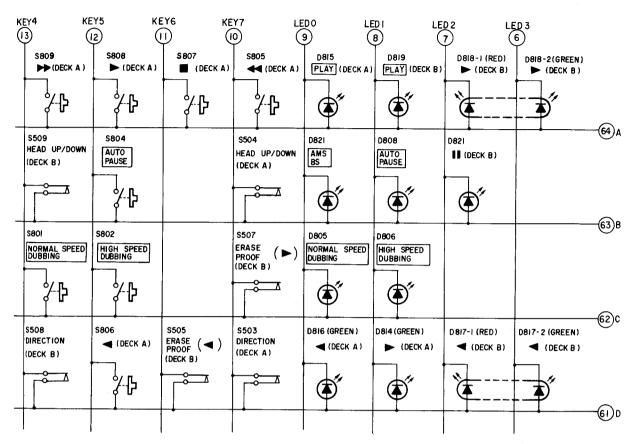
Pin No.	Pin Name	1/0	Function
1	VDD		Power supply pin.
2	A-MOTOR(FWD)	0	A deck reel motor (FWD) drive output pin. "L" when A deck reel motor rotates FWD, otherwise "H".
3	A-MOTOR(REV)	0	A deck reel motor (REV) drive output pin. "L" when A deck reel motor rotates RVS, otherwise "H".
ц	B-MOTOR(FWD)	0	B deck reel motor (FWD) drive output pin. "L" when B deck reel motor rotates FWD, otherwise "H".
5	B-MOTOR(REV)	0	B deck reel motor (REV) drive output pin. "L" when B deck reel motor rotates RVS, otherwise "H".
6 7 8 9	LED3 LED2 LED1 LED0	0	Anode side digit output pins to dynami- cally light up LED. Refer to LED functions in Figure 1 and Table 2.
10 11 12 13	KEY7 KEY6 KEY5 KEY4	I	Key matrix key return signal input pins. Refer to switch functions in Figure 1 and Table 3.
14	ĀMS/BS	I	AMS/BS (blank skip) key input pin.
15	TC STOP	I	Direct function stop signal input pin. "L" when amp function is at "TAPE", "H" otherwise. When "H" is input during playback, stop occurs, but not during recording. (This pin is not used on TC-V710WR.)

·	1	
SYNCHRO-11	I	Synchro pause release signal input pin. "L" when synchro pause release signal is input; otherwise "H". Only accepted when B deck is in recording mute or recording pause.
SYNCHRO- O	I	Synchro recording mute signal input pin. "L" when synchro recording mute signal is input; otherwise "H". Only accepted during B deck recording.
		If 16 SYNCHRO-II and 17 SYNCHRO-O above both input "L" at the same time, remote control AMS/ O input is judged, and during recording, recording mute operation results, and at other times AMS/BS on/off is done.
B- 	I	B deck ◀ key input pin.
B- -	I	B deck ◀◀ key input pin.
B-■	I	B deck ■ key input pin.
B-►	I	B deck ► key input pin.
B-▶►	I	B deck ➡ key input pin.
B-●	I	B deck ● key input pin.
B-II	I	B deck II key input pin.
B-0	I	B deck O key input pin.
POWER OFF	I	Power detection pin. "H" is input for power ON and "L" for power OFF. For power OFF when head is up, the head is lowered immediately.
GND	-	Ground pin.
RST	I	External reset signal input pin. Reset operation is performed for "L" level input.
XI XI	I O	Clock oscillation pins. (3.58MHz on this model.)
CLK	0	Timing signal output pin. Supplies 895kHz clock to RMS controller. (Not used on TC-V70WR.)
GND	_	Ground pin.
	SYNCHRO-O B- B- B- B- B- B- B- C CLK	SYNCHRO-

33	A-SHUT OFF	I	- A deck reel table rotation signal input pin. When a pulse (
			- During power ON Switching input pin for 1 direction/2 direction playback.
			1 direction playback:
			POWER ONL
			2 direction playback: "H"
			On this model, fixed to "H" during power ON.
34	B-SHUT OFF	I	B deck reel table rotation signal input pin. When a pulse (סרטעעעע) is input during B deck PB, recording, FF, FR and "H" continues for 2 seconds during PB or recording or for 0.5 seconds during FF or FR, shut off occurs.
35	Q	I	B deck leader tape sensor (quick sensor) signal input pin. At leader tape: "L" At magnetic coating: "H" When "L" is input during B deck playback or recording, B deck reverses rotation. However, only operates for from FWD to RVS direction. Also, does not operate for 8 seconds from the start of FWD.
36	TIMER REC	I	- Direction mode switching signal input pin. "L" when direction mode is , otherwise "H".
			- During power ON TIMER REC signal input pin.
			TIMER REC:
	1		Otherwise: "H"
37	TIMER PLAY	I	- Direction mode switching signal input pin. "L" when direction mode is otherwise "H".
			- During power ON TIMER PLAY signal input pin.
			TIMER PLAY!
			POWER ONL
			Otherwise: "H"

·			
38	AMS SIG	I	AMS signal input pin. "H" during recorded portion, "L" during blank.
39 40	BACK GO	I	RMS control signal input pin. Receives "back" or "go" commands from RMS controller during RMS. Both "H" during RMS OFF, both "L" when RMS is set, then after pin $\frac{41}{REQ}$ output, for "back" command, pin $\frac{39}{BACK}$: "L", pin $\frac{40}{GO}$: "H". For "go" command, pin $\frac{39}{BACK}$: "H", pin $\frac{40}{GO}$: "L" are input from RMS controller. Refer to Figure 2 for the timing chart for RMS. (Not used on TC-V70WR.)
41	REQ	0	Output pin for request signal to RMS controller. Outputs "L" to receive command from RMS controller during RMS. See Figure 2 for the RMS timing chart. (Not used on TC-V70WR.)
42	TIMER	0	Timer recording, playback operation output. "L" for two seconds only sfter reset (0.8 seconds), otherwise "H".
43	TC FUNCTION	0	Direct function signal output pin. "
44	SIRCS MUTE	0	Remote control prohibit signal output pin. "L" during dubbing so that remote control can not operate. Otherwise "H".
45	A-PLAY MONITOR	0	A deck playback monitor signal output pin. "L" during A deck playback to in-form RMS controller of playback. "H" at other times. See Figure 2 for RMS timing chart.
46	LINE MUTE RELEASE	0	Line muting release signal output pin. "L" for A deck, B deck playback and during dubbing, "H" at other times.
47	H.P MUTE RELEASE	0	Headphone, meter muting release signal output pin. "L" for A deck playback, B deck playback and recording, and dubbing; otherwise "H".
48	REC MUTE RELEASE	0	Recording muting release signal output pin. "L" during B deck recording and dubbing, otherwise "H".
49	A-RMS MONITOR	0	A deck RMS monitor signal output pin. "L" during RMS operation to inform RMS controller of RMS operation. See Figure 2 for RMS timing chart.

50	BIAS	0	Recording bias oscillation control signal output pin. "L" during B deck recording and dubbing, otherwise "H".
51	REC RELAY	О	Relay control signal output pin. "L" when B deck ● (REC) key, HIGH SPEED
			DUBBING key or NORMAL SPEED DUBBING key is ON, otherwise "H".
52	PB/REC	0	Playback/recording switching signal output pin. "L" when B deck ● (REC) key is ON, otherwise "H".
53	B-PLAY	0	A deck/B deck switching signal output pin. "L" during B deck playback and AMS, otherwise "H".
54	A-PLAY	0	A deck/B deck switching signal output pin. "L" during A deck playback; otherwise "H". Not used on this model.
55	HIGH SPEED	0	Normal speed dubbing/high speed dubbing switching signal output pin. "L" for high speed dubbing, otherwise "H".
56	PM-KICK	0	Plunger solenoid kick signal output pin. " 500ms " during plunger solenoid
			(PM501,502) kick, otherwise "H".
57	A-PM	0	A deck plunger solenoid control signal output pin. "H" when A deck plunger solenoid is ON, otherwise "L".
58	A-CPM	0	A deck capstan motor control signal output pin. "L" when A deck capstan motor is ON, otherwise "H". This output is used to lower reel motor torque.
59	B-PM	0	B deck plunger solenoid control signal output pin. "H" when B deck plunger solenoid is ON, otherwise "L".
60	B-CPM	0	B deck capstan motor control signal output pin. "L" when B deck capstan motor is ON, otherwise "H". This output is used to lower reel motor torque.
61 62 63 64	D C B A	0	Key matrix signal source output and cathode side.digit output for dynamic lighting of LED. Refer to Figure 1 and Tables 2,3 for LED and switch functions.



Figuer. 1 LED Matrix, Switch Matrix

Table 2. LED Functions

Ref.No.	LED Name	Color	Function
D805	NORMAL SPEED DUBBING	red	Indicates normal speed dubbing mode. Blinks if B deck erase prevention switches (S505,507) are OFF during dubbing.
D806	HIGH SPEED DUBBING	red	Indicates high speed dubbing mode. Blinks if B deck erase prevention switches (S505,507) are OFF during dubbing.
D814	► (A deck)	green	A deck playback direction display (FWD direction).
D815	PLAY(A deck)	green	A deck playback operation display.
D816	∢(A deck)	green	A deck playback direction display (REV direction).
D817-1	◀ (B deck)	red	B deck recoriding direction display (REV direction). Blinks of only switch (S815) is ON.
D817-2	∢ (B deck)	green	B deck playback direction display (REV direction).

D818-1	► (B deck)	red	B deck recording direction display (FWD direction). Blinks if only switch (S815) is ON.
D818-2	► (B deck)	green	B deck playback direction display (FWD direction).
D819	PLAY(B deck)	green	B deck playback, recording operation display.
D820	Ⅱ (B deck)	orange	B deck pause display. Blinks during power ON and recording mute operation.
D821	AUTO PAUSE	orange	Auto pause display for normal speed dubbing.

Table 3. Switch Functions

Ref.No.	Name	Type	Function
S503	Direction (A deck)	leaf	Switch for memorizing A deck head direction. With the head block up, during FWD: OFF, during REV:ON. With head block down, the head is always in FWD direction.
S504	Head UP/DOWN (A deck)	leaf	A deck head block up/down detection switch. With head block up:ON, head block down: OFF. If this switch is ON (head block is not all the way down) when going from play to stop, for example, when the head block starts to go down, and during power ON, the system controller will again lower the head block.
S505	Erase prevention (slide	B deck REV side erase prevention tab detection switch. ON when there is a tab.
S507	Erase prevention (►) (B deck)	slide	B deck RWD side erase prevention tab detection switch. ON when there is a tab.
S508	Direction (B deck)	leaf	Switch for memorizing B deck head direction. With the head block up, during FWD: OFF, during REV:ON. With head block down, the head is always in FWD direction.

S509	Head UP/DOWN (B deck)	leaf	B deck head block up/down detection switch. With head block up:ON, head block down: OFF. If this switch is ON (head block is not all the way down) when going from play to stop, for example, when the head block starts to go down, and during power ON, the system controller will again lower the head block.
S801	NORMAL SPEED DUBBING	contact	Normal speed dubbing switch.
S802	HIGH SPEED DUBBING	contact	High speed dubbing switch.
S804	AUTO PAUSE	contact	Auto pause switch during dubbing.
S805	← (A deck)	contact	A deck FR key switch.
S806	◀ (A deck)	contact	A deck REV key switch.
S807	■ (A deck)	contact	A deck stop key switch.
S808	► (A deck)	contact	A deck FWD key switch.
S809	► (A deck)	contact	A deck FF key switch.

IC701 (for TC-V710WR only)

IC701 (LM6416E-1976) is a 4 bit microcomputer which performs communication with the system control IC (IC501) to control RMS, RMS key input and RMS LED display. The operation for RMS is explained below.

As shown in Figure 2, when RMS is set by the RMS keys 1 - 10, the RMS control IC (IC701) pins 9 \overline{GO} and 10 \overline{BACK} go low.

When PLAY key (either \blacktriangleright or \blacktriangleleft)is input to system control IC (IC501), rewinds the tape completely and output 41 $\overline{\text{REQ}}$.

When $\overline{\text{REQ}}$ is input to IC701, it outputs "GO" or "BACK" command.

"GO" command: 9 \overline{GO} : stays "L"; 10 \overline{BACK} : "H" pulse "BACK" command: 9 \overline{GO} : "H" pulse; 10 \overline{BACK} : stays "L"

IC501 places the mechanism in AMS state when there is a "BACK" or "GO" command.

IC701 inputs the AMS signal at $1 \text{ } \overline{\text{AMS IN}}$, counting is done inside the IC, and when the AMS signal for the start of the specified selection is input, 11 $\overline{\text{AMS OUT}}$ is output.

IC501 places the mechanism in playback state when $38 \ \overline{\text{AMS SIG}}$ is input.

When the selection ends, if the next one is not set, IC701 makes 9 \overline{GO} and 1Q \overline{BACK} high, and IC501 stops the mechanism.

If the next selection is set, IC501 again outputs 41 $\overline{\text{REQ}}$ and continues RMS operation according to commands from IC701.

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S509	Head UP/DOWN (B deck)	leaf	B deck head block up/down detection switch. With head block up:ON, head block down: OFF. If this switch is ON (head block is not all the way down) when going from play to stop, for example, when the head block starts to go down, and during power ON, the system controller will again lower the head block.
S801	NORMAL SPEED DUBBING	contact	Normal speed dubbing switch.
S802	HIGH SPEED DUBBING	contact	High speed dubbing switch.
S804	AUTO PAUSE	contact	Auto pause switch during dubbing.
S805	← (A deck)	contact	A deck FR key switch.
S806	◀ (A deck)	contact	A deck REV key switch.
S807	■ (A deck)	contact	A deck stop key switch.
S808	► (A deck)	contact	A deck FWD key switch.
S809	► (A deck)	contact	A deck FF key switch.

IC701 (for TC-V710WR only)

IC701 (LM6416E-1976) is a 4 bit microcomputer which performs communication with the system control IC (IC501) to control RMS, RMS key input and RMS LED display. The operation for RMS is explained below.

As shown in Figure 2, when RMS is set by the RMS keys 1 - 10, the RMS control IC (IC701) pins 9 \overline{GO} and 10 \overline{BACK} go low.

When PLAY key (either \blacktriangleright or \blacktriangleleft)is input to system control IC (IC501), rewinds the tape completely and output 41 $\overline{\text{REQ}}$.

When $\overline{\text{REQ}}$ is input to IC701, it outputs "GO" or "BACK" command.

"GO" command: 9 \overline{GO} : stays "L"; 10 \overline{BACK} : "H" pulse "BACK" command: 9 \overline{GO} : "H" pulse; 10 \overline{BACK} : stays "L"

IC501 places the mechanism in AMS state when there is a "BACK" or "GO" command.

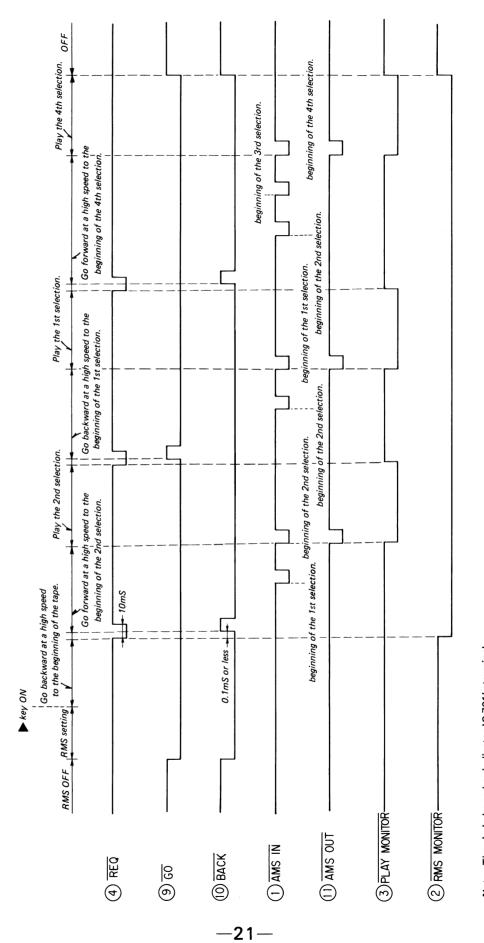
IC701 inputs the AMS signal at 1 $\overline{\text{AMS IN}}$, counting is done inside the IC, and when the AMS signal for the start of the specified selection is input, 11 $\overline{\text{AMS OUT}}$ is output.

IC501 places the mechanism in playback state when $38\ \overline{\text{AMS SIG}}$ is input.

When the selection ends, if the next one is not set, IC701 makes 9 $\overline{\text{GO}}$ and 1Q $\overline{\text{BACK}}$ high, and IC501 stops the mechanism.

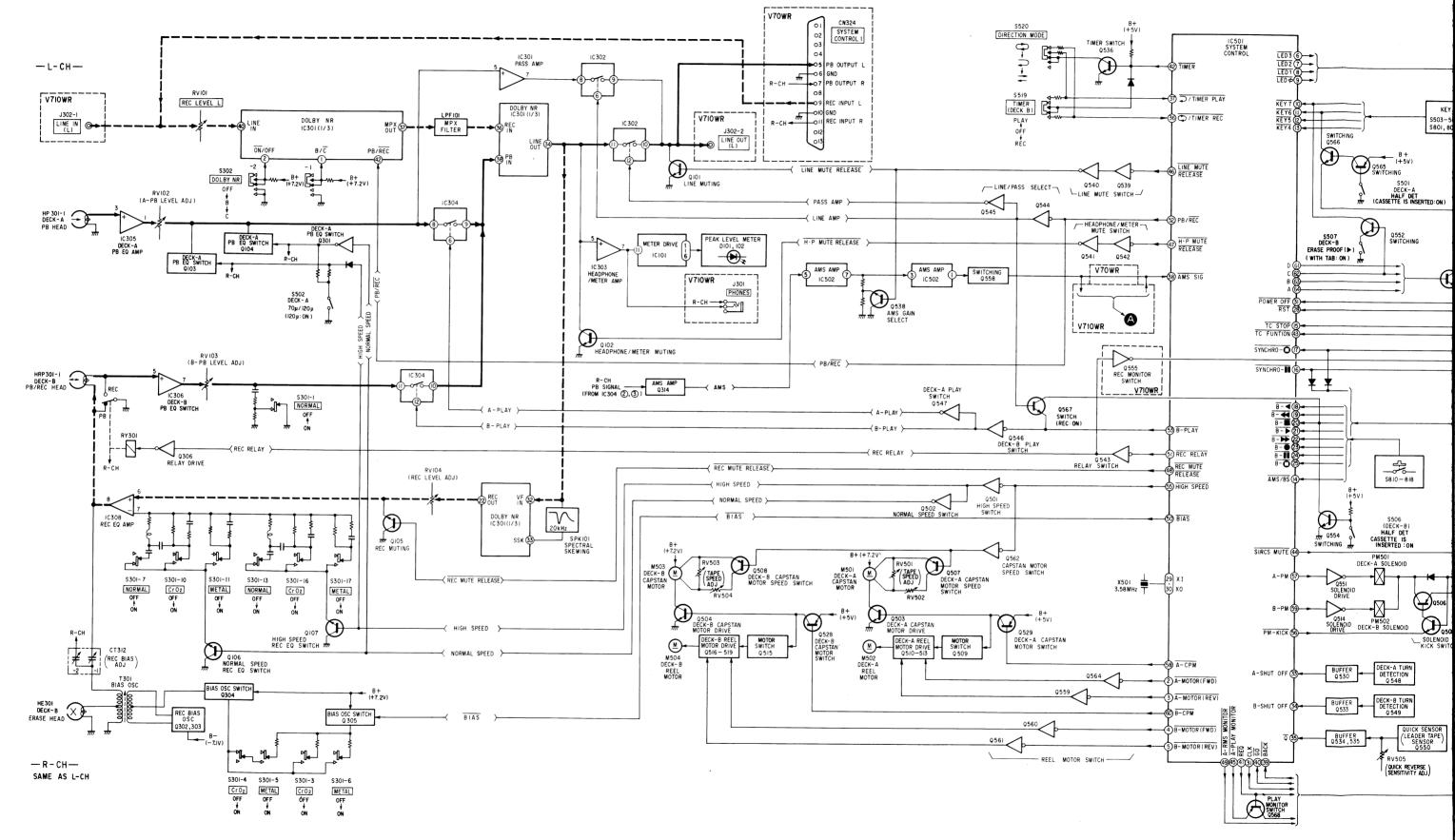
If the next selection is set, IC501 again outputs 41 $\overline{\text{REQ}}$ and continues RMS operation according to commands from IC701.

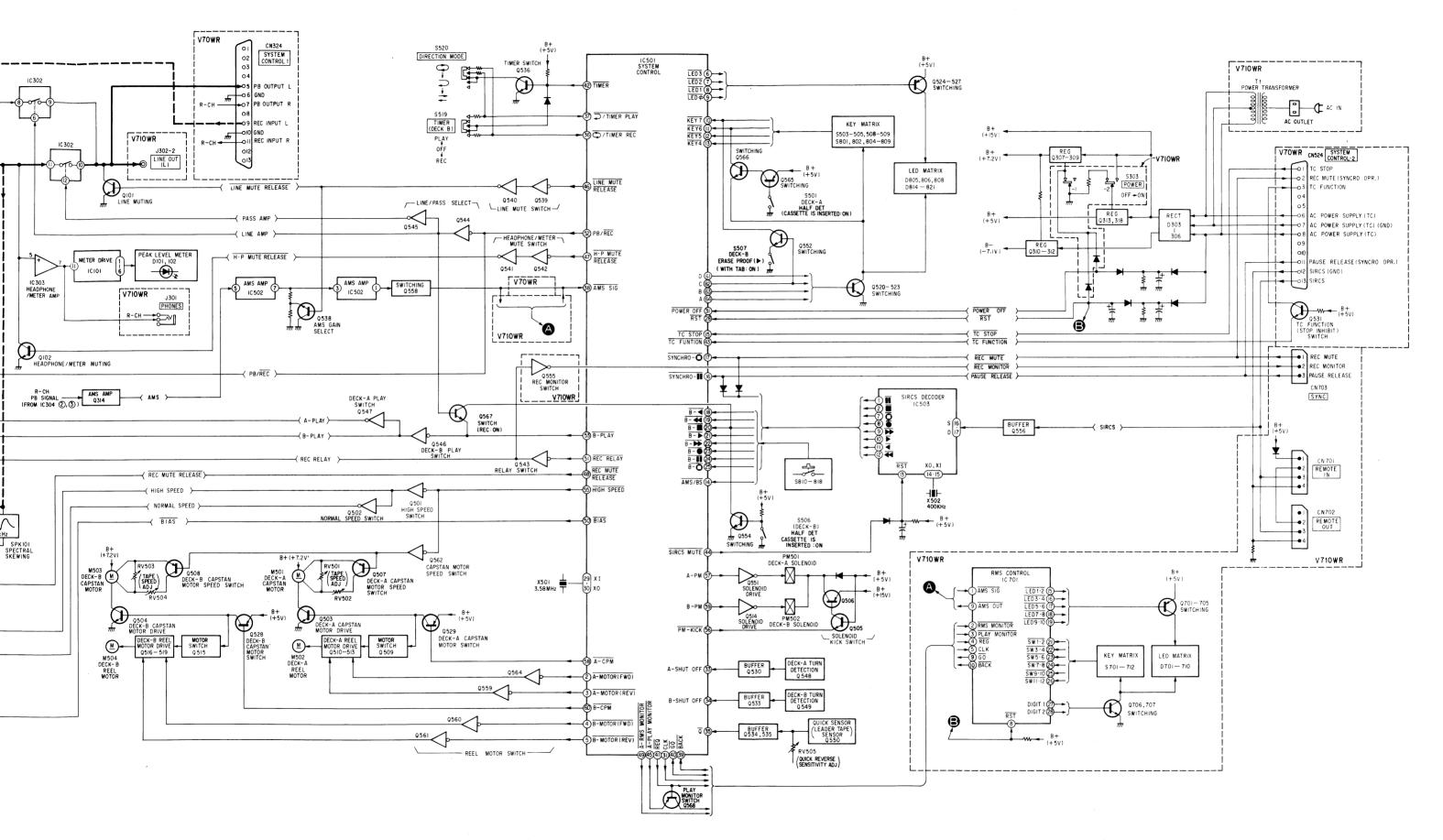




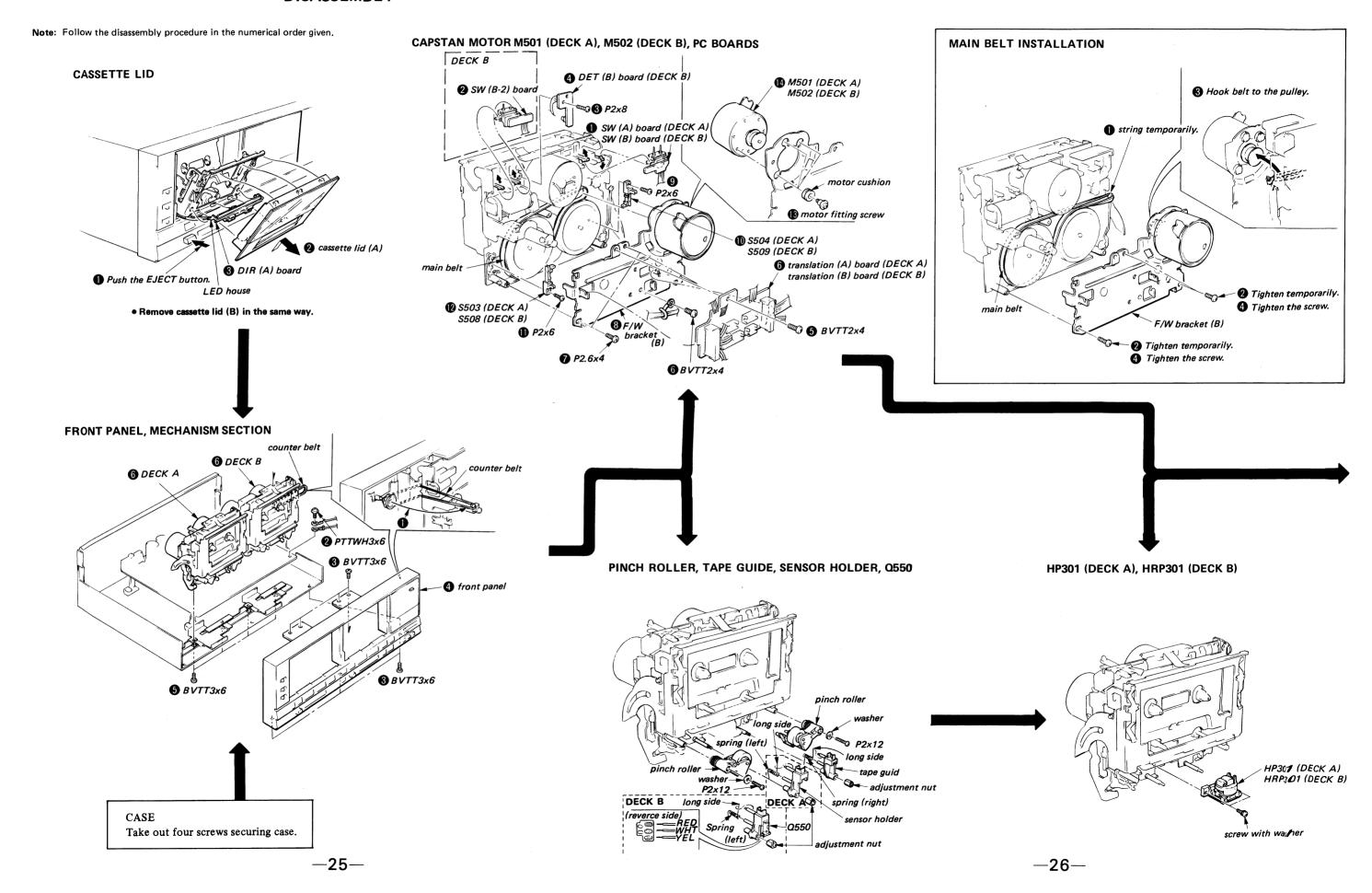
iguer. 2 RMS Timing Chart

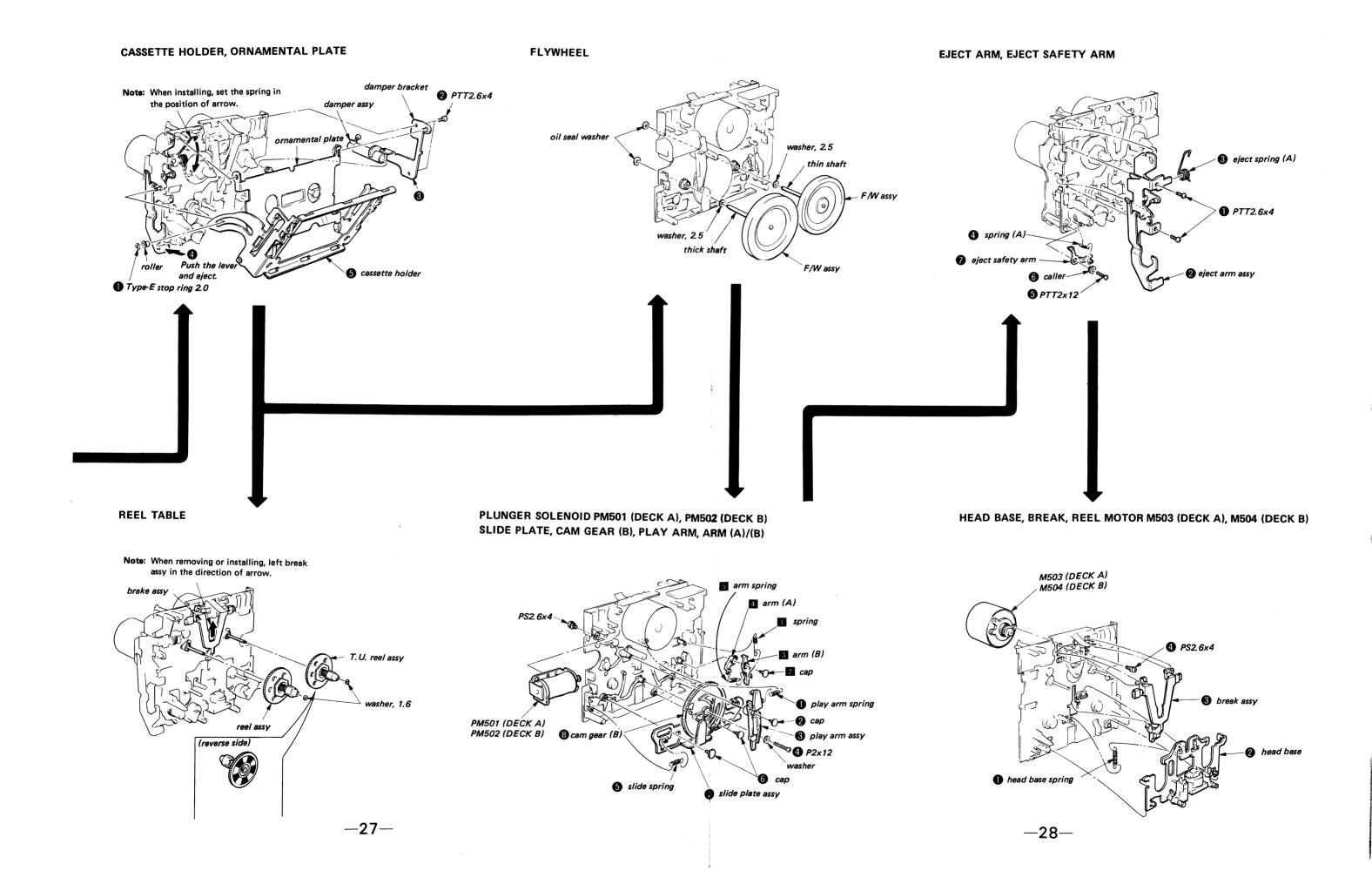
1-2. BLOCK DIAGRAM





SECTION 2 DISASSEMBLY





3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denaturedalcohol-moistened swab:

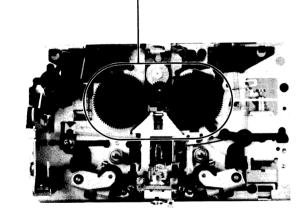
record/playback head pinch roller rubber belts erase head

idlers capstan

- 2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- 3. Do not use a magnetized screwdriver for the adjustments.
- 4. After the adjustments, apply suitable locking compound to the parts adjusted.
- 5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque Torque meter		Meter reading	
FWD	CQ-102C	30 to 70 g-cm (0.42 to 0.97 oz-inch)	
REV	CQ-102RC	30 to 70 g·cm (0.42 to 0.97 oz·inch)	
FF, REW	CQ-201B	90 to 160 g·cm (1,26 to 2.22 oz·inch)	



3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.

The adjustments should be performed for both L-CH and R-CH.

• Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch:

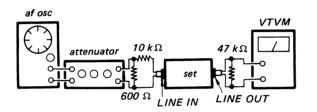
OFF **OFF**

TIMER switch:

- Record Mode -

• Standard Record: Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain

the standard output signal level.



Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.2 V (-10 dB)

Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (-5 dB)

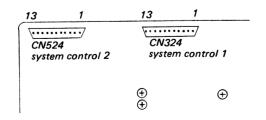
Test Tape:

Type	Signal		Used for
P-4-A100	10kHz, -	-10dB	Azimuth Adjustment
P-4-L300	315Hz	0dB	Level Adjustment
WS-48B	3kHz	0dB	Tape Speed Adjustment

CN324: System Control 1 (TC-V70WR only)

	L-CH	R-CH	GND
LINE IN	9	11	10
LINE OUT	5	7	6

- audio board (component side) -

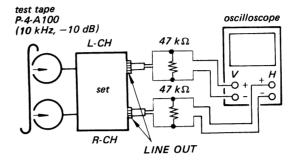


Record/playback Head Azimuth Adjustment

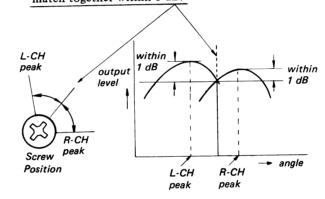
Deck-B Deck-A

Procedure:

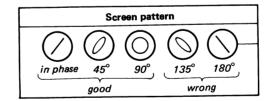
1. Mode: forward playback



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screws until both of output levels match together within 1 dB.



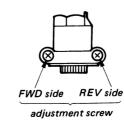
• Phase Check



- 3. Set in the reverse mode and repeat the steps 1-2.
- 4. After the adjustment, lock the screws with locking compound.

- record/playback head-

Adjustment Location:

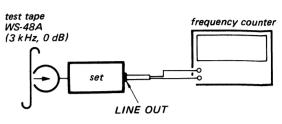


Tape Speed Adjustment

Deck-A Deck-B

Procedure:

Mode: forward playback



Playback

Deck-A

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Play back the beginning of test tape WA-48B, and deck-A: RV501 (high speed),

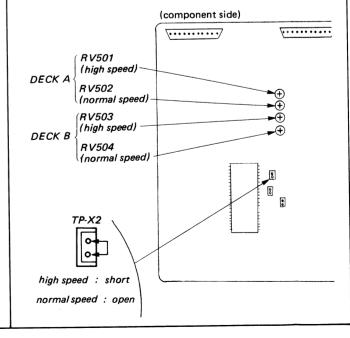
RV502 (normal speed) so that the adjust deck-B: RV503 (high speed), RV504 (normal speed)

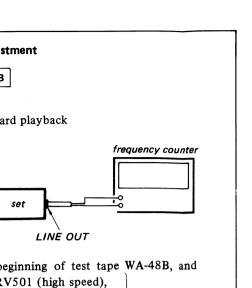
reading on frequency counter meets the specification below. Frequency difference between deck-A and deck-B should be within 1.5% (high speed: 90 Hz, normal speed: 45Hz).

Specifications:

	Deck	Adjust- ment part	Test pin (TP-X2)	Frequency counter
High	Α	RV501	SHORT	5,960 — 6,040 Hz
speed	В	RV503		3,900 = 0,040 112
Normal	Α	RV502	OPEN	2.980 – 3,020 Hz
speed	В	RV504	OPEN	2,900 - 3,020 112

Adjustment location: audio board





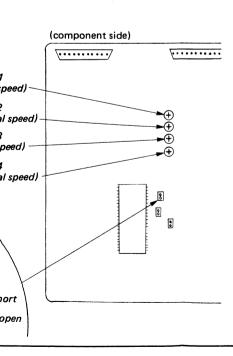
RV502 (normal speed)
RV503 (high speed),
RV504 (normal speed)

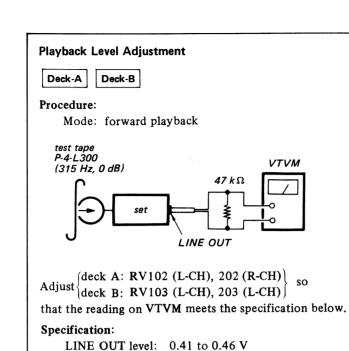
ency counter meets the specification

nency counter meets the specification by difference between deck-A and be within 1.5% (high speed: 90 Hz, 5Hz).

djust- ment part	Test pin (TP-X2)	Frequency counter	
V501	SHORT	5.960 — 6.040 Hz	
V503	SHURT	5,960 — 6,040 HZ	
V502	ODEN	2 000 2 020 11=	
V504	OPEN	2,980 — 3,020 Hz	

t**ion**: audio board



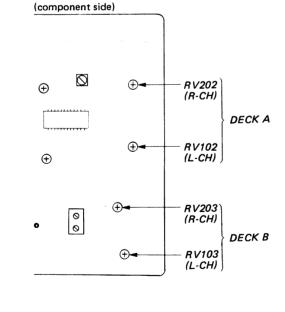


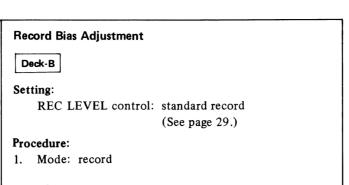
Level difference between channels:
less than 0.5 dB
Check that the LINE OUT level does not change

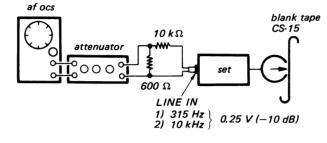
(-5.5 to -4.5 dB)

in playback mode while changing the mode from playback to stop several times.

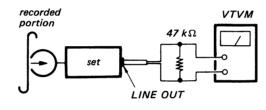
Adjustment Location: audio board





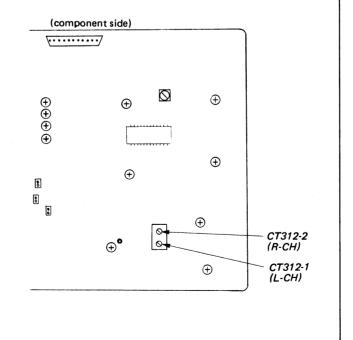


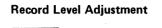
2. Mode: playback



Confirm that the 10 kHz playback output is 0 dB relative to the 315 Hz output. If necessary, adjust CT312-1 (L-CH), CT312-2 (R-CH) and repeat the steps given above.

Adjustment Location: audio board





Deck-B

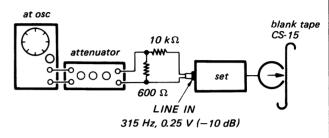
Setting:

REC LEVEL control: standard record

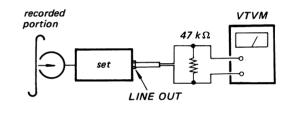
(See page 29.)

Procedure:

1. Mode: record



2. Mode: playback

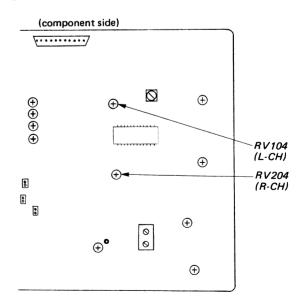


Play back the signal recorded in step 1.
 Confirm that the signal level is within the specification below. If necessary, adjust RV104 (L-CH), RV204 (R-CH) and repeat the step 1-3.

Specification:

LINE OUT level: 0.41-0.46 V (-5.5 to -4.5 dB)

Adjustment Location: audio board



Deck-B

Conditions:

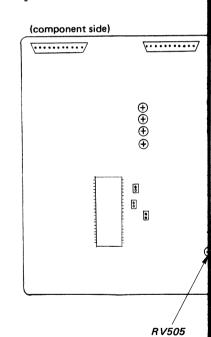
Direction mode switch:

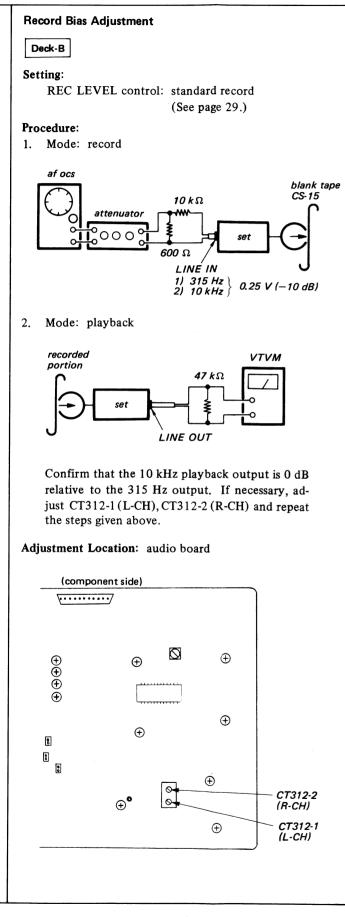
Quick Reverse Sensitivity Adjustment

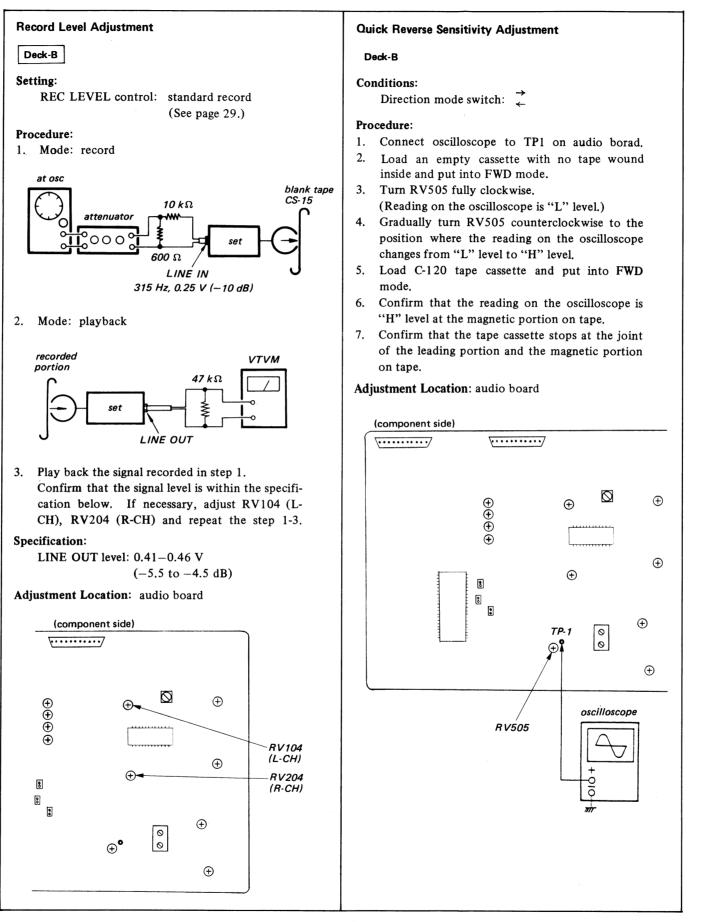
Procedure:

- 1. Connect oscilloscope to TP1
- 2. Load an empty cassette with inside and put into FWD mode.
- Turn RV505 fully clockwise.
 (Reading on the oscilloscope is "
- 4. Gradually turn RV505 countered position where the reading on changes from "L" level to "H" let
- 5. Load C-120 tape cassette and mode.
- 6. Confirm that the reading on th "H" level at the magnetic portion
- 7. Confirm that the tape cassette s of the leading portion and the on tape.

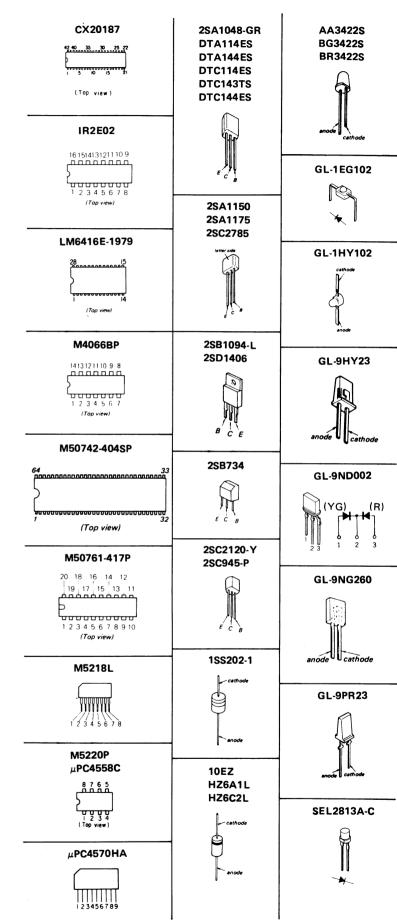
Adjustment Location: audio board







Semiconductor Lead Layouts



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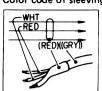
from

TC-V70WR/V710WR

4-1. MOUNTING DIAGRAM

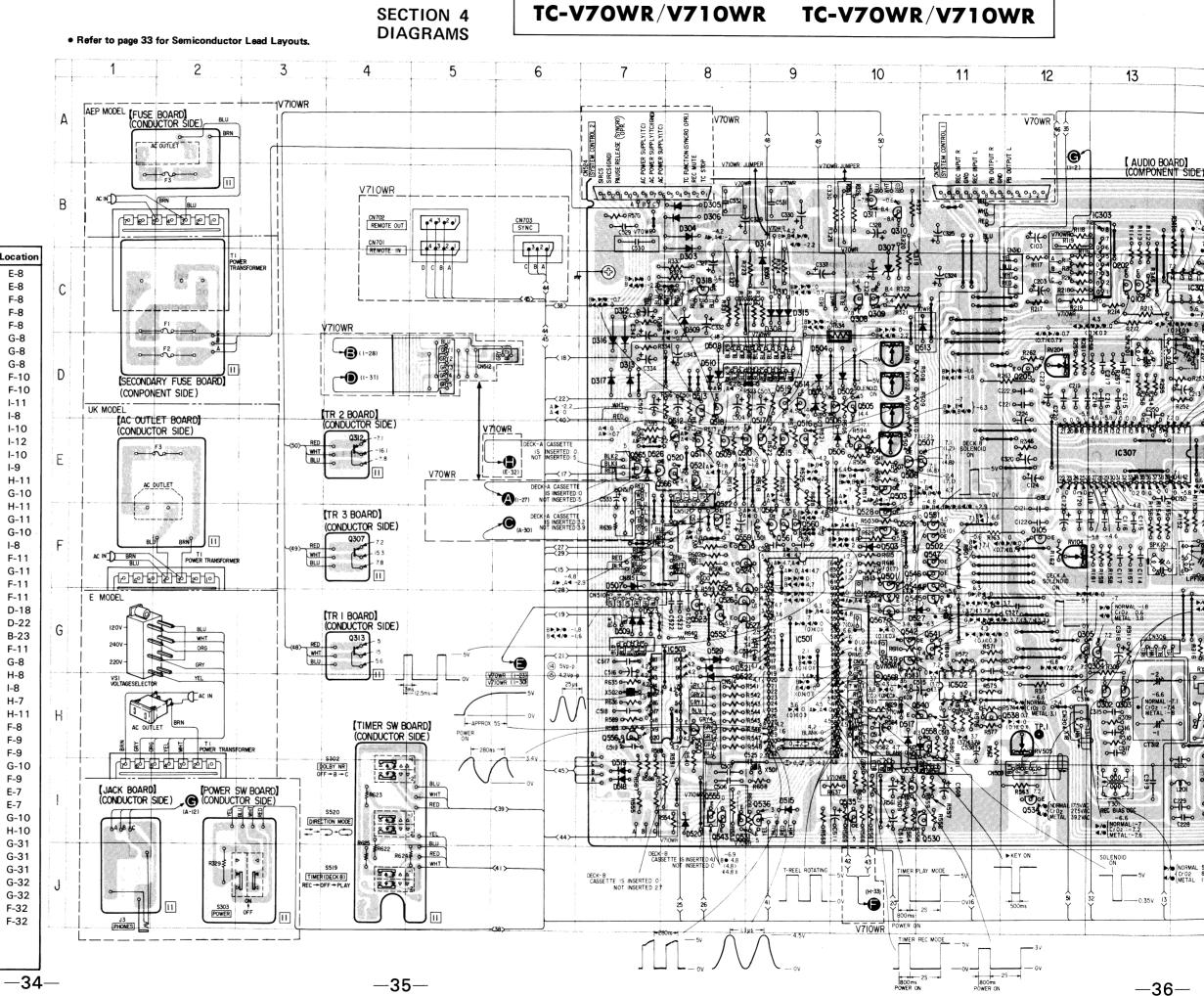
Note

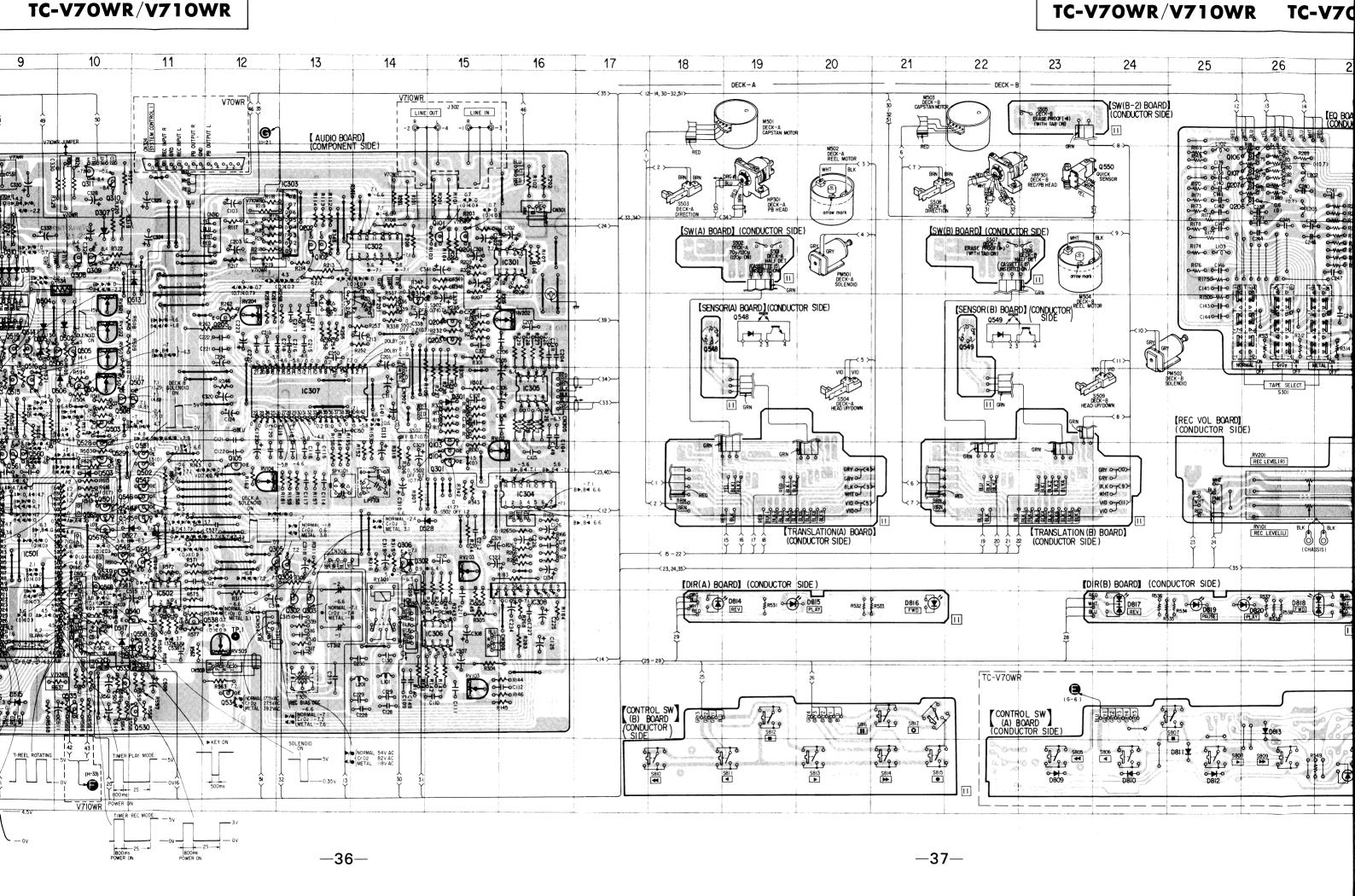
• Color code of sleeving over the end of the jacket.

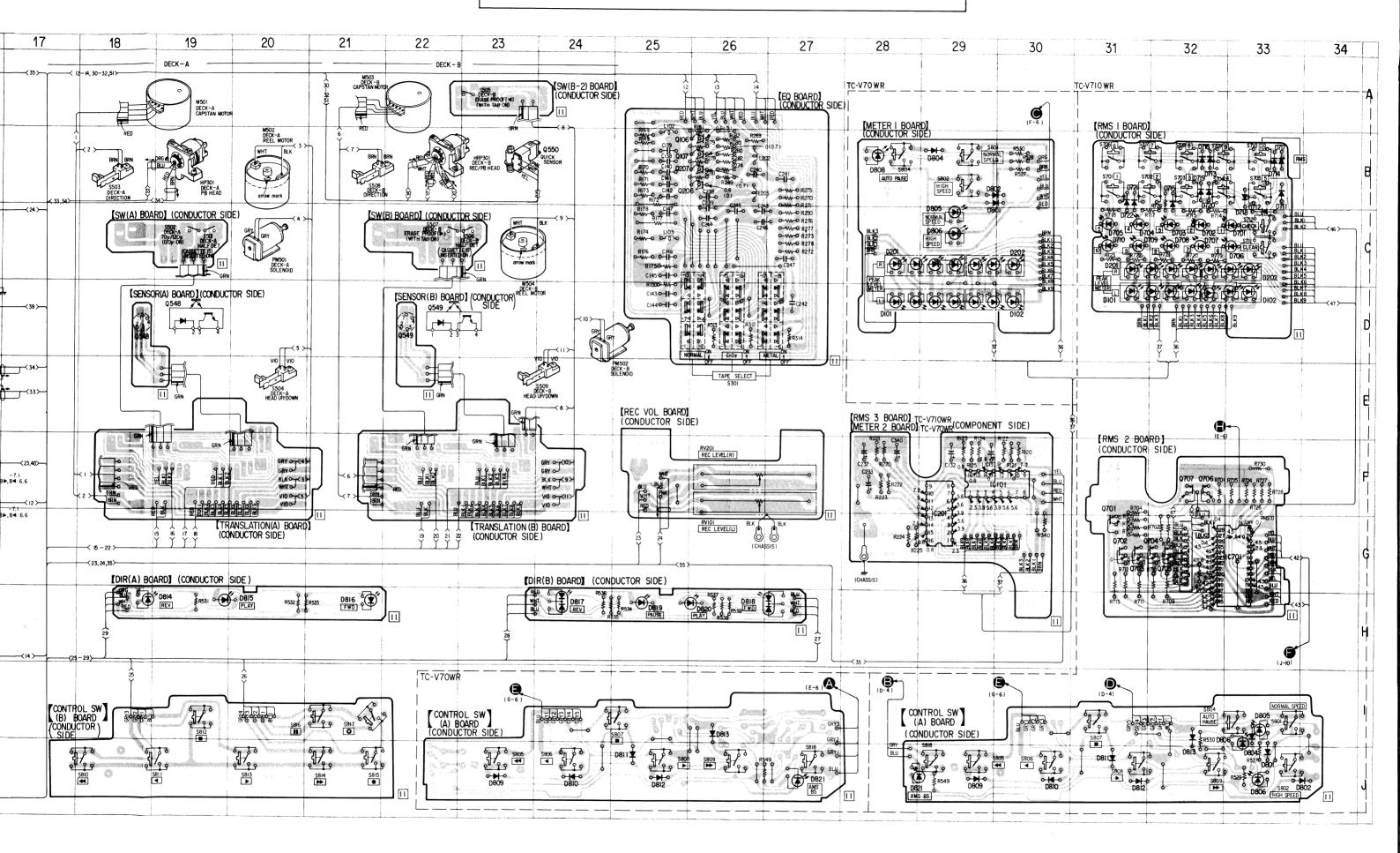


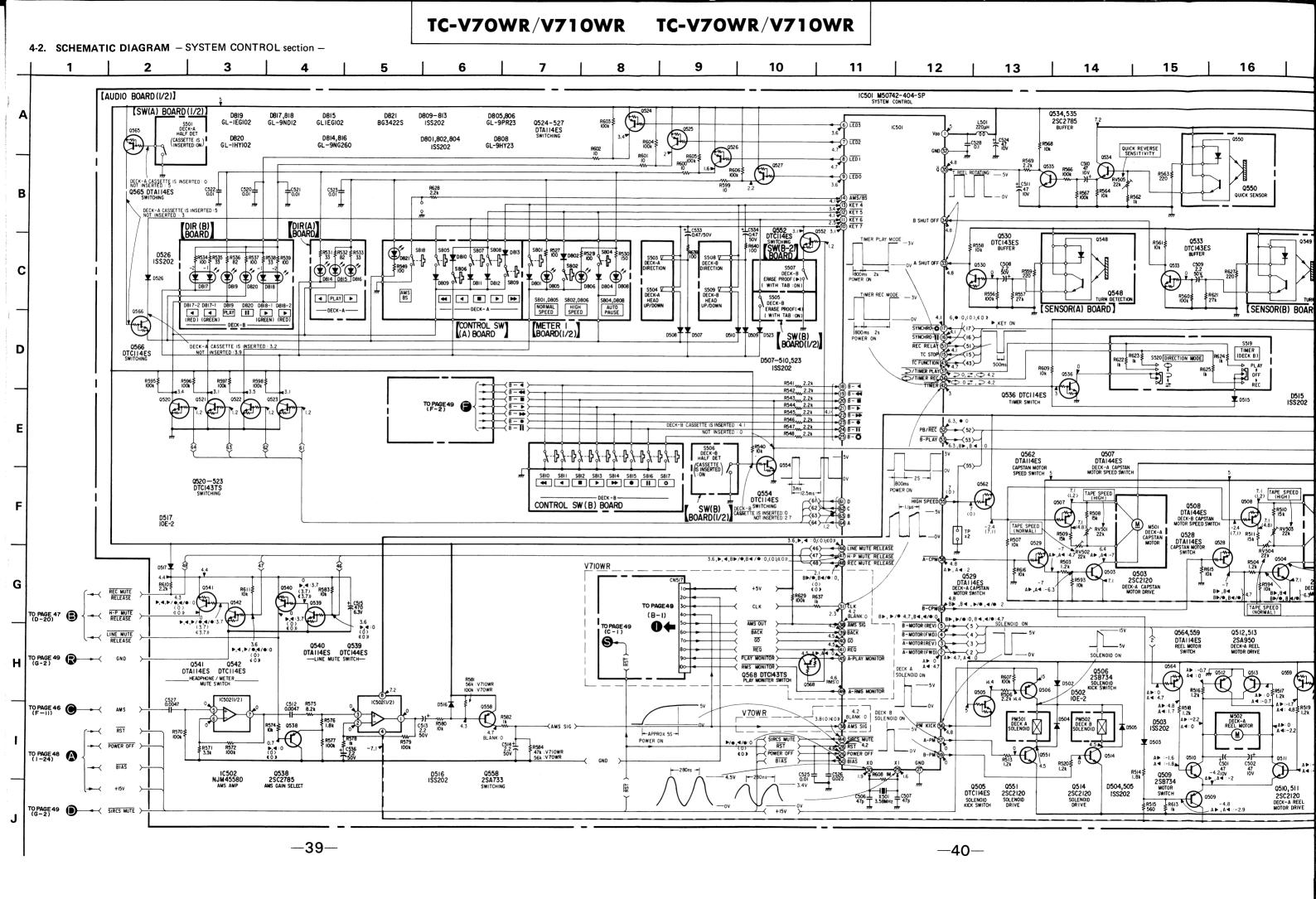
- o-: parts extracted from the component side.
- parts extracted from the conductor side.
- part mounted on the conductor side.

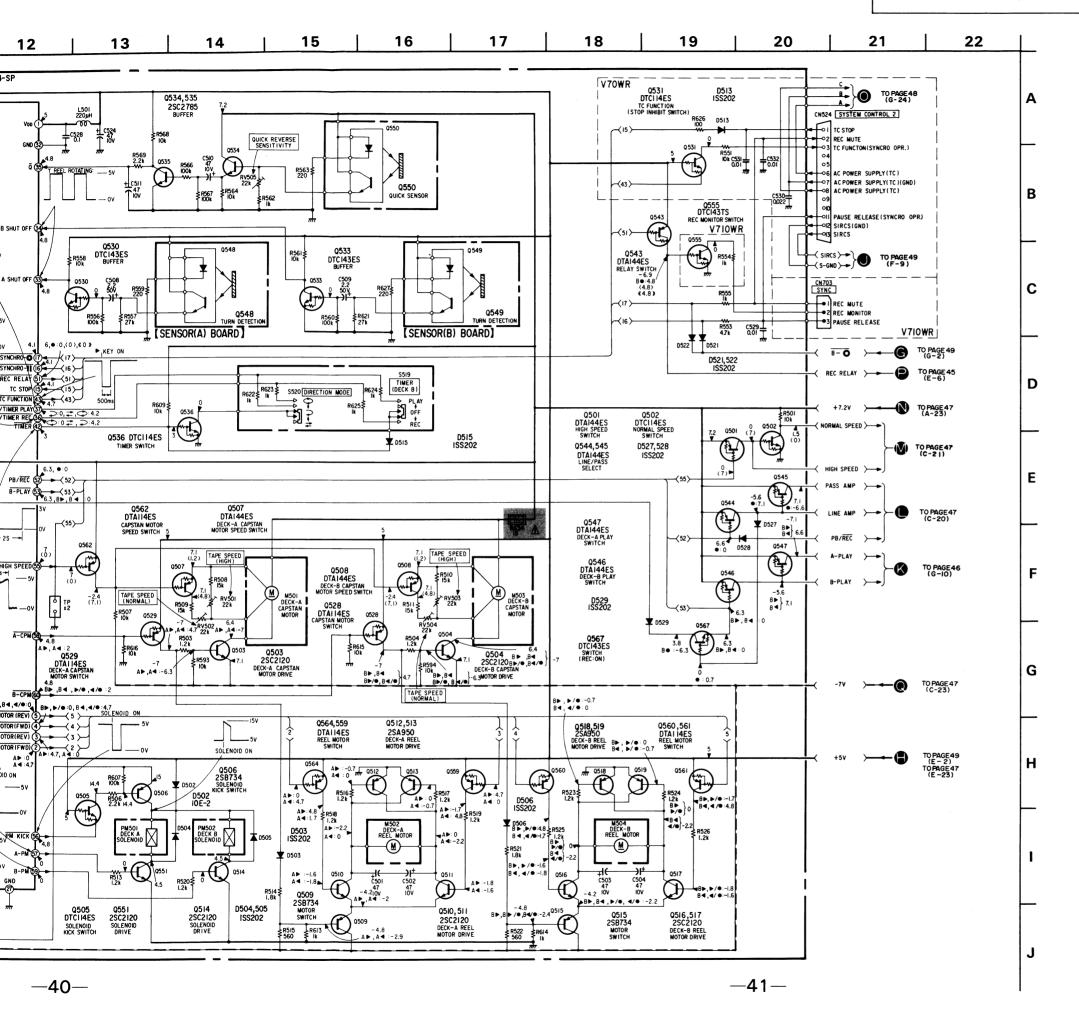
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	D-28	D708	C-32	IC307	E-13	Q520	E-8
	D-31	D709	C-31	IC308	H-16	Q521	E-8
D102	D-30	D710	C-31	IC501	G-9	Q522	F-8
	D-33	D711	B-33	IC502	H-11	Q523	F-8
D201	C-28	D712	B-33	IC503	H-8	Q524	F-8
	D-31	D713	B-32	IC701	G-33	Q525	G-8
D202	C-30	D714	B-33	Q101	C-15	Q526	G-8
	D-33	D715	B-32	Q102	C-13	Q527	G-8
D301	E-15	D716	B-32	Q103	F-15	Q528	F-10
D302	G-14	D717	B-33	Q104	F-15	Q529	F-10
D303	B-8	D718	C-33	Q105	F-12	Q530	I-11
D304	B-8	D719	B-32	Q106	B-26	Q531	I-8
D305	B-8	D720	B-32	Q107	B-26	Q533	I-10
D306	B-8	D721	C-31	Q201	C-15	Q534	I-12
D307	C-10	D722	C-31	Q202	C-13	Q535	I-12
D308	C-9	D801	B-29	Q203	D-15	Q536	I-10
D309	C-8	D001	J-33	Q204	D-15	Q538	H-11
D310	C-9	D802	B-29	Q205	D-13 D-12	Q539	ı
D310	D-7	D802	J-33	0206	B-26	Q540	G-10
D312	D-7 D-7	D804	B-29	Q207		1	H-11
		D804			B-26	Q541	G-11
D314	C-9	5005	1-33	Q301	F-15	Q542	G-10
D315	C-9	D805	C-29	Q302	H-13	Q543	I-8
D316	D-7		I-33	0303	H-13	Q544	F-11
D317	D-7	D806	C-29	Q304	G-13	Q545	G-11
D502	D-10		J-33	Q305	G-12	Q546	F-11
D503	F-10	D808	B-28	Q306	G-14	Q547	F-11
D504	D-9		I-33	Q307	F-4	Q548	D-18
D505	D-9	D809	J-23	O308	C-10	Q549	D-22
D506	E-10		J-29	G309	C-10	Q550	B-23
D507	F-7	D810	J-24	Q310	B-10	Q551	F-11
D508	D-8		J-30	Q311	B-10	Q552	G-8
D509	G-7	D811	J-25	Q312	E-4	Q554	H-8
D510	D-8		J-31	Q313	G-4	Q555	I-8
D513	C-11	D812	J-25	Q314	E-14	Q556	H-7
D515	I-9		J-31	Q318	C-8	Q558	H-11
D516	H-11	D813	I-26	Q501	F-10	Q559	F-8
D517	H-10		I-32	Q502	F-11	Q560	F-9
D518	1-7	D814	H-18	Q503	E-10	Q561	F-9
D519	1-7	D815	H-19	Q504	E-10	Q562	G-10
D520	i-8	D816	H-21	Q505	D-10	Q564	F-9
D521	G-8	D817	H-24	Q506	D-10	Q565	E-7
D522	H-8	D818	H-27	0507	E-11	Q566	E-7
D523	G-7	D819	H-25	Q508	E-10	Q567	G-10
D526	E-7	D819	H-26	Q509	E-10	Q568	H-10
D527	G-11	D820 D821	J-28	Q510	E-8	Q701	G-31
D528	G-11	D021	J-27	Q510	E-8	Q701	1
D528	G-15 G-8					i .	G-31
D701	- 11	IC101	F-29	Q512	E-8	Q703	G-31
	C-33	IC201	G-29	Q513	D-8	Q704	G-32
D702	C-32	IC301	C-16	Q514	D-9	Q705	G-32
D703	C-32	IC302	C-14	Q515	E-9	Q706	F-32
D704	C-31	IC303	B-13	Q516	E-9	Q707	F-32
D705	C-31	IC304	F-16	Q517	E-9		
D706	C-33	IC305	E-16	Q518	D-8		
D707	C-32	IC306	H-15	Q519	D-9		











Note on SYSTEM CONTROL section :

- All capacitors are in μF unless otherwise noted. pF: $\mu \mu F$ 50 WV or less are not indicated except for electrolytics
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- m : nonflammable resistor.
- : B+ bus.
- === : B- bus.
- adjustment for repair.
- Voltages are dc with respect to ground unless otherwise
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

no mark : STOP

▶▶ : FF

> : NORMAL SPEED DUBBING ⇒: HIGH SPEED DUBBING

▶ : FWD

▶/● : REC

∢ : REW **∢** : REV

• Waveform are taken to ground in under no signal conditions by using oscilloscope.

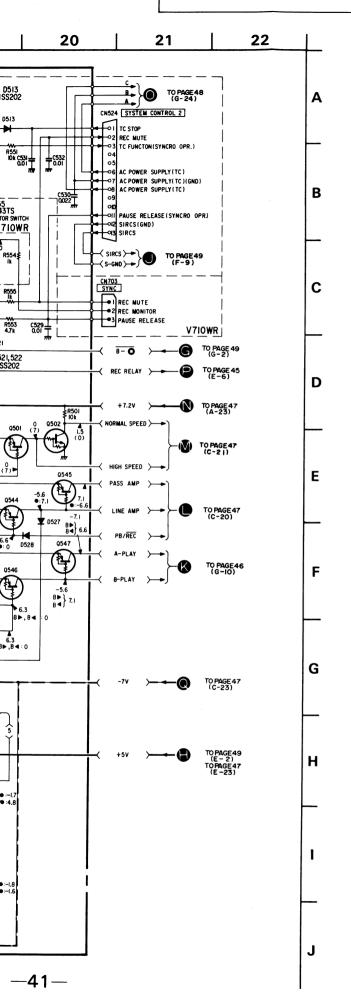
Voltage variations may be noted due to normal produc-

Switch

Switch							
Ref. No.	Switch	Position					
S501	DECK-A HALF DET	OFF					
S503	DECK-A DIRECTION	OFF					
S504	DECK-A HEAD UP/DOWN	OFF					
S505	DECK-B ERASE PROOF (◀)	OFF					
S506	DECK-B HALF DET	OFF					
S507	DECK-B ERASE PROOF (▶)	OFF					
\$508	DECK-B DIRECTION	OFF					
S509	DECK-B HEAD UP/DOWN	OFF					
S519	TIMER (DECK-B)	OFF					
S520	DIRECTION MODE	=					
S801	NORMAL SPEED	OFF					
S802	HIGH SPEED	OFF					
S804	AUTO PAUSE	OFF					
S805	DECK-A ◀◀	OFF					
S806	DECK-A ◀	OFF					
S807	DECK-A ■	OFF					
S808	DECK-A ▶	OFF					
S809	DECK-A ▶	OFF					
S810	DECK-B ◀◀	OFF					
S811	DECK-B ◀	OFF					
S812	DECK-B ■	OFF					
S813	DECK-B ▶	OFF					
S814	DECK-B ▶	OFF					
S815	DECK-B ●	OFF					
S816	DECK-B N	OFF					
S817	DECK-B •	OFF					
S818	AMS/BS	OFF					

Note: The components identified by shading and mark n are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Note on SYSTEM CONTROL section :

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^{1}\!/_{\!4}\,W$ or less unless otherwise specified.
- : nonflammable resistor.
- : B+ bus.
- ---- : B-- bus
- adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 $k\Omega/V)$.

no mark : STOP

< > : NORMAL SPEED DUBBING

◀ : REV

- Waveform are taken to ground in under no signal conditions by using oscilloscope.
 Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S501	DECK-A HALF DET	OFF
S503	DECK-A DIRECTION	OFF
S504	DECK-A HEAD UP/DOWN	OFF
S505	DECK-B ERASE PROOF (◀)	OFF
S506	DECK-B HALF DET	OFF
S507	DECK-B ERASE PROOF (▶)	OFF
S508	DECK-B DIRECTION	OFF
S509	DECK-B HEAD UP/DOWN	OFF
S519	TIMER (DECK-B)	OFF
S520	DIRECTION MODE	===
S801	NORMAL SPEED	OFF
S802	HIGH SPEED	OFF
S804	AUTO PAUSE	OFF
S805	DECK-A ◀◀	OFF
S806	DECK-A ◀	OFF
S807	DECK-A ■	OFF
S808	DECK-A ▶	OFF
S809	DECK-A ▶▶	OFF
S810	DECK-B ◀◀	OFF
S811	DECK-B ◀	OFF
S812	DECK-B ■	OFF
S813	DECK-B ▶	OFF
S814	DECK-B ▶	OFF
S815	DECK-B ●	OFF
S816	DECK-B ■	OFF
S817	DECK-B O	OFF
S818	AMS/BS	OFF

Note: Les composants identifiés par une trame et une marque \(\underset \) sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

TC-V70WR/V710WR

4-3. SCHEMATIC DIAGRAM - AUDIO section -

Note on AUDIO section :

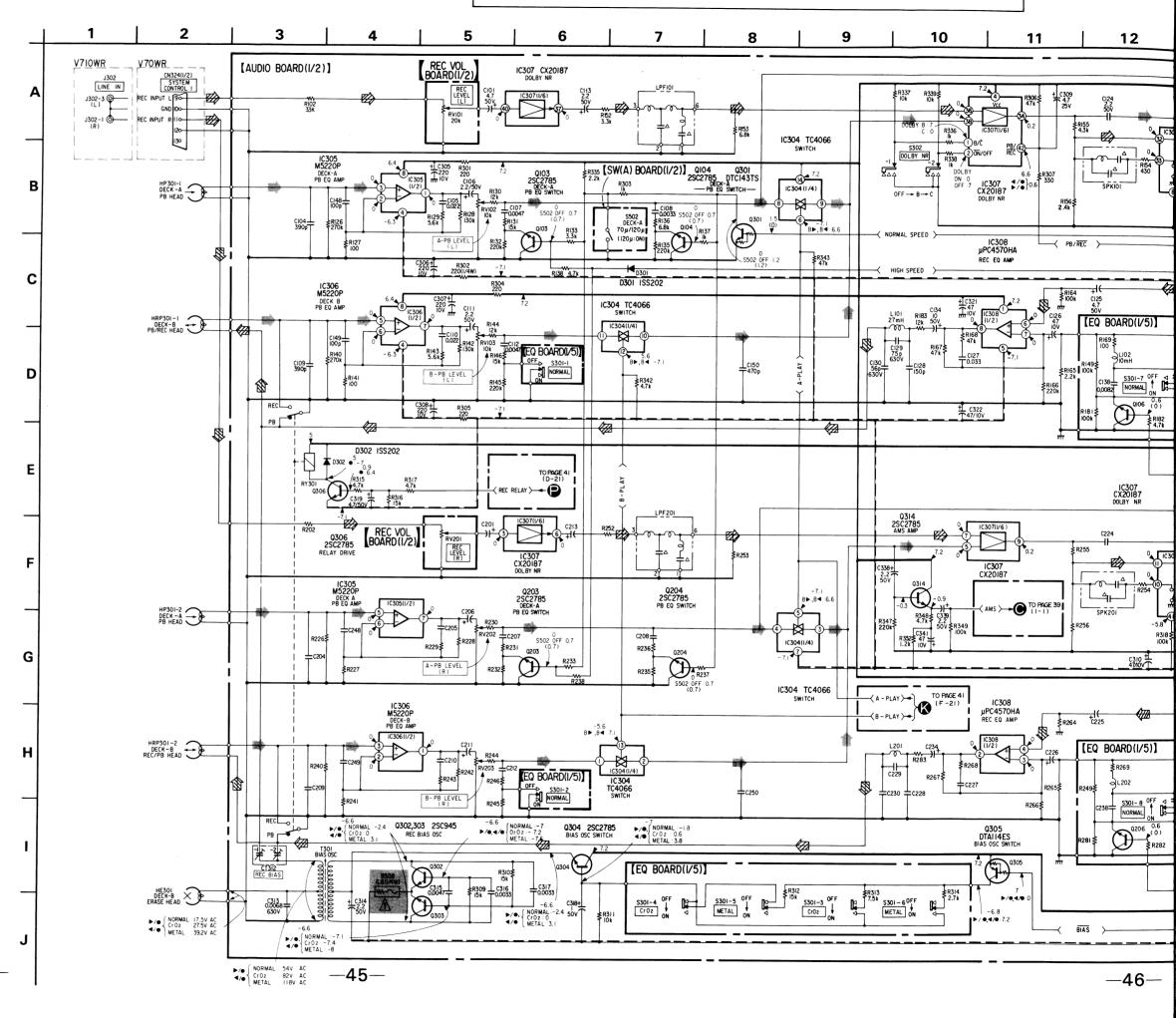
- All capacitors are in μF unless otherwise noted. pF: $\mu \mu F$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ${}^{1}\!/_{\!4}\,W$ or less unless otherwise specified.
- fw : fusible resistor.
- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- : B + bus
- === : B- bus.
- adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 $k\Omega/V$). no mark:STOP
 - < > :NORMAL SPEED DUBBING
- ≪ ≫ :HIGH SPEED DUBBING
- ▶ : FWD
- **∢** : REW
- **∢** : REV

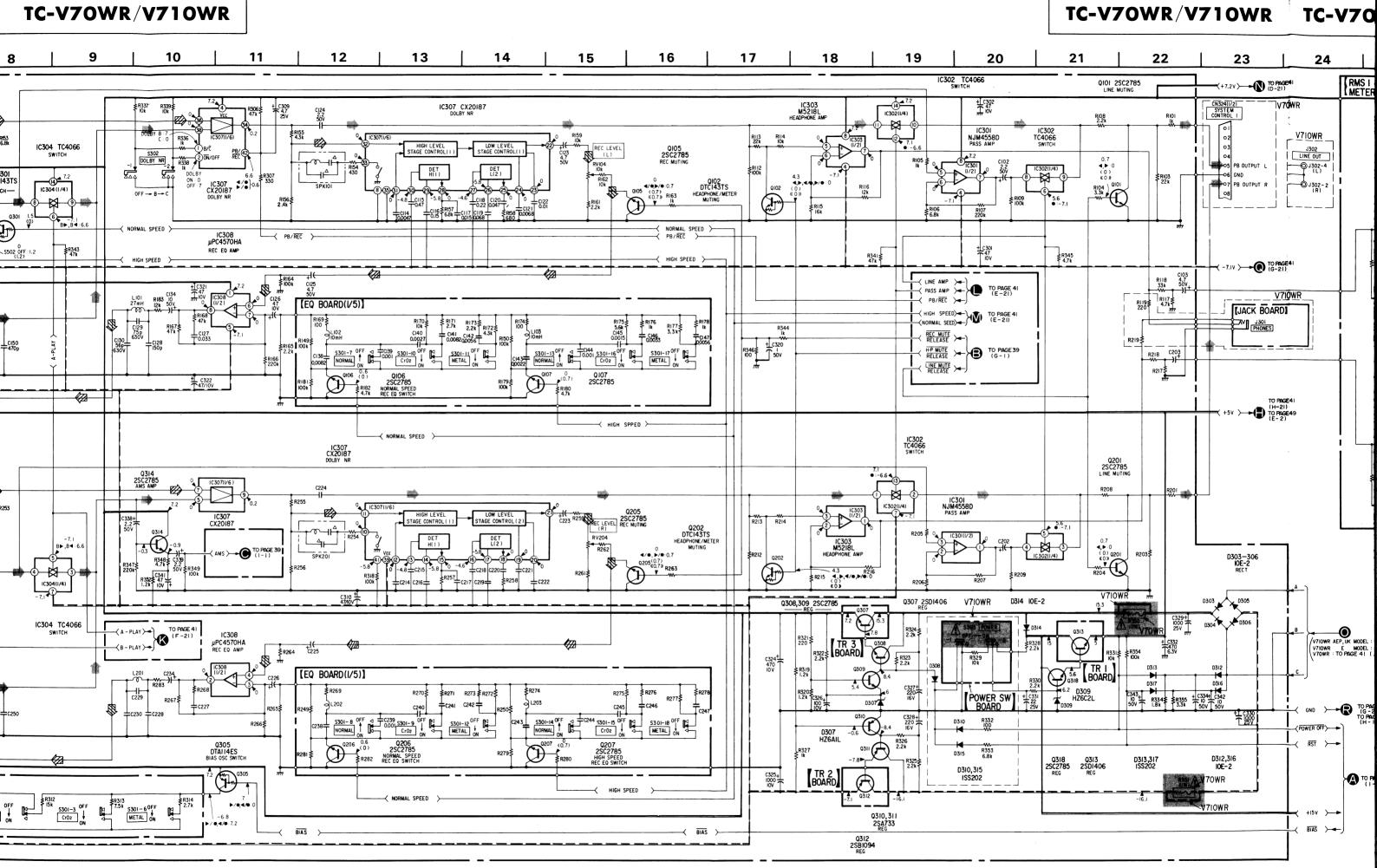
- **▶▶** : FF
- **▶**/●: REC
- Waveform are taken to ground in under no signal conditions by using oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Switch

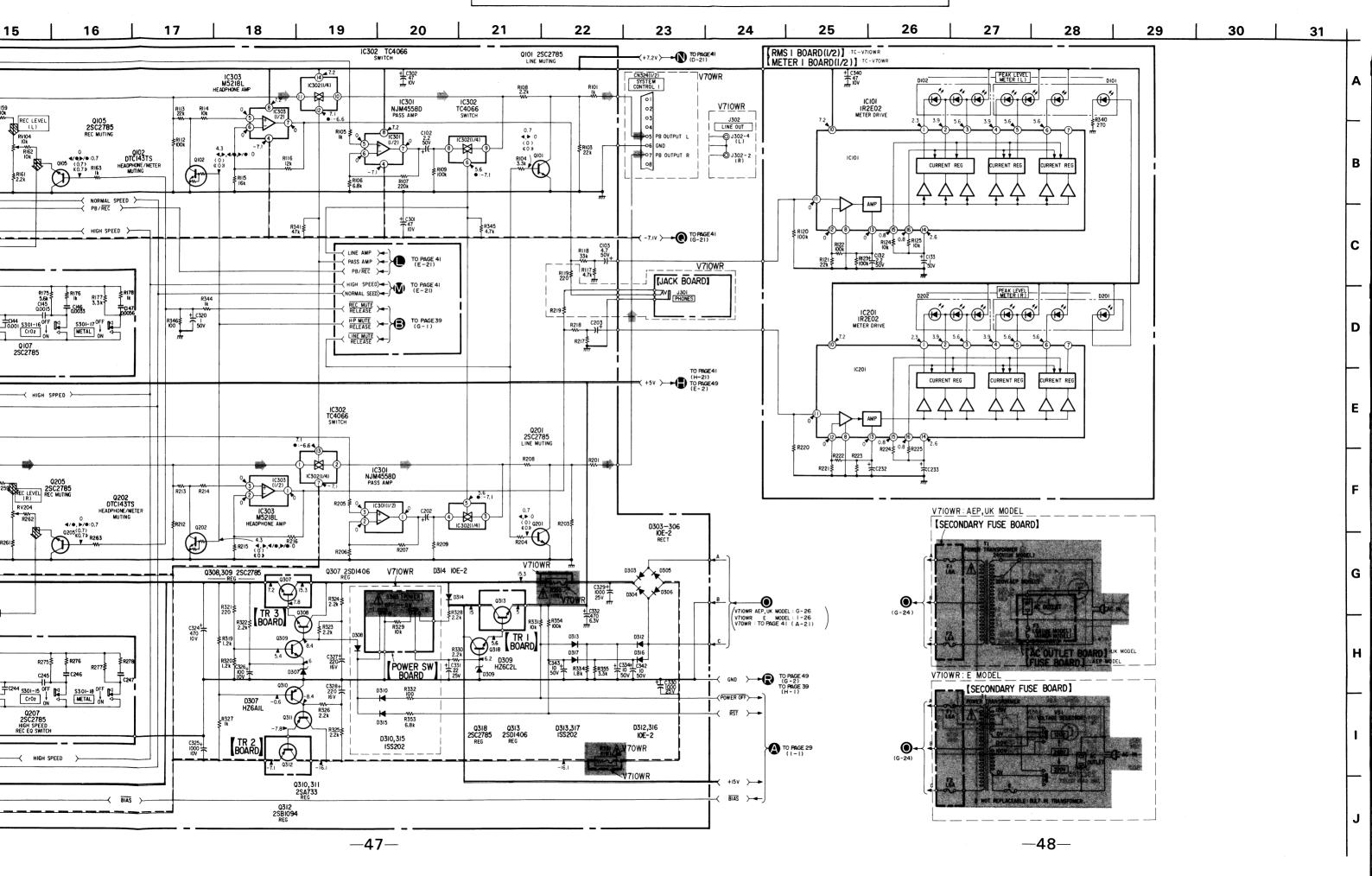
Ref. No.	Switch	Position
\$301	TAPE SELECT	NORMAL
\$302	DOLBY NR	OFF
\$303	POWER (V710WR)	OFF
\$502	DECK-A 70µ/120µ	70µ

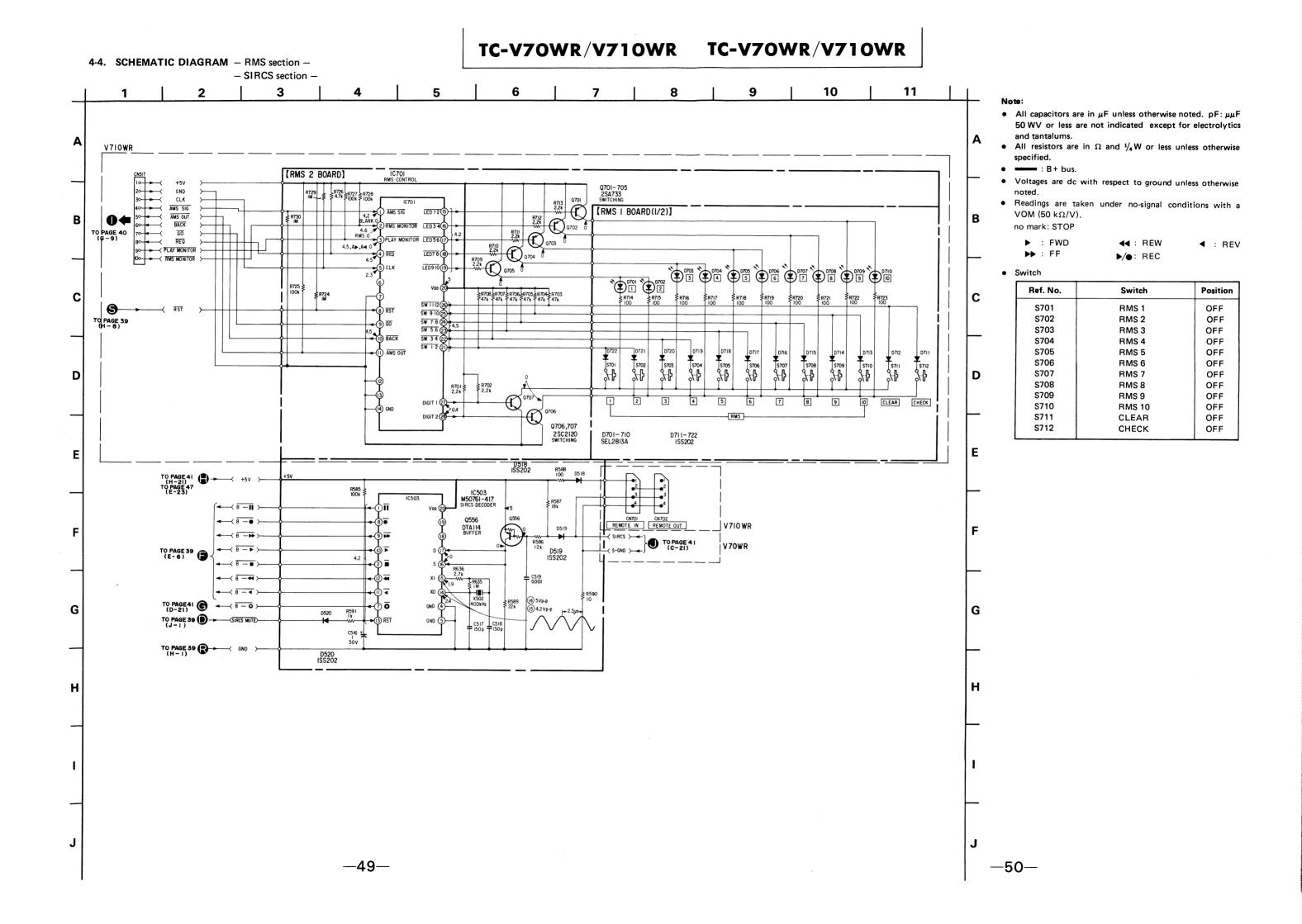
- 🖒 : playback signal path.
- 🖒 : record signal path.

Note: Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.









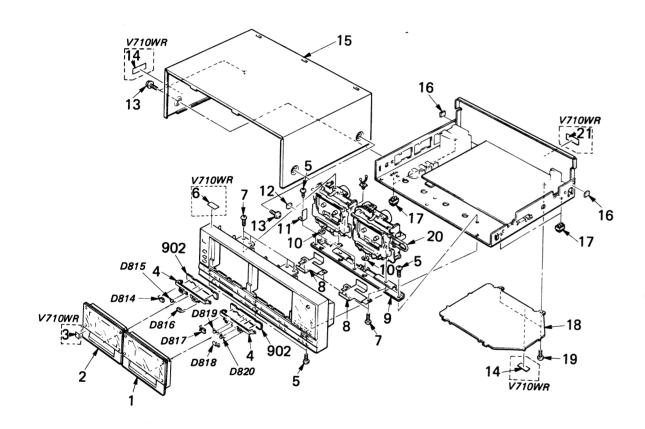
SECTION 5 EXPLODED VIEWS AND PARTS LIST

- NOTE:
 The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be antici-pated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

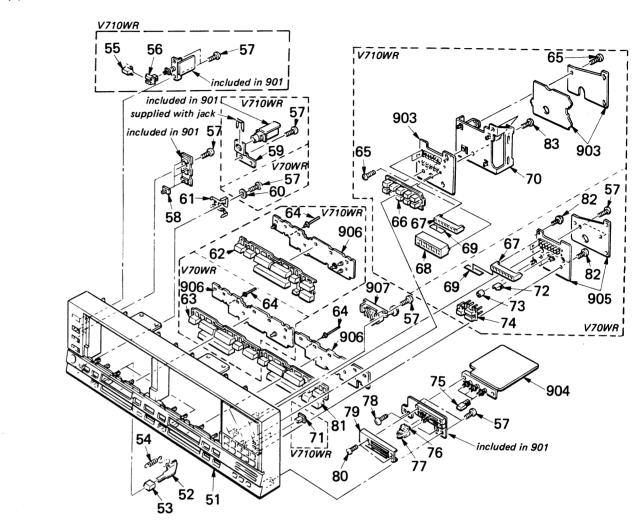
Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1)



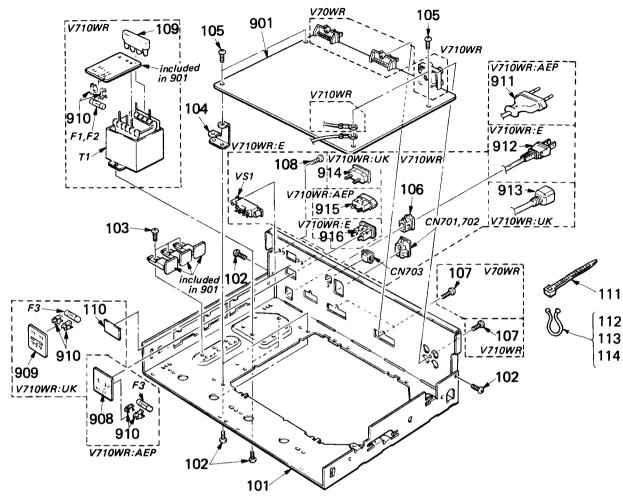
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1 2 3 4 5	X-3329-909-2 3-703-713-41 3-329-955-01 7-685-871-01 3-701-690-00	LID (B) ASSY, CASSETTE LID (A) ASSY, CASSETTE (TC-V710WR)STICKER, SON HOUSE, LED SCREW +BVTT 3X6 (S) (TC-V710WR:UK)LABEL (M	MADE IN JAPAN)	16 17 18 19 20 21	9-911-840-XX X-4907-603-1 *3-329-956-01 7-685-752-04 3-532-213-00 3-332-442-01	FOOT ASSY PLATE, BOTTOM SCREW +BYTT 3X8 (S) BELT, COUNTER (TC-V710WR:AEP)LABEL, #	APPROVAL BLIND
8 9 10	7-685-871-09 *3-329-951-01 *3-329-954-01 *3-329-980-01	SCREW +BVTT 3X6 PLATE, SHIELD, HEAD BRACKET, MD SHEET, MD		902 D814 D815	*A-2056-314-A *1-618-747-11 8-719-919-20 8-719-918-67	DIODE GL-9NG260	
11 12 13 14 15	*3-329-978-01 9-911-842-XX 4-886-821-01 3-703-079-21 3-329-967-01	PLATE, SHIELD CUSHION (F) SCREW, M3 CASE (TC-Y710WR:UK)LABEL, C CASE	CAUTION (BACK)	D816 D817 D818 D819 D820	8-719-919-20 8-719-936-63 8-719-936-63 8-719-918-67 8-719-918-66		

(2)



No.	Part No.	<u>Description</u> Re	emarks	No.	Part No.	Description	Remarks
51	X-3323-410-1 X-3329-911-1	(TC-V70WR)PANEL ASSY (EXP), FR (TC-V710WR)PANEL ASSY, FRONT	RONT	70 71	*3-329-960-01 3-329-946-01		
52 53	3-329-953-01 3-329-952-01			72 73	*4-906-216-01 *3-325-014-01		
54 55	4-885-182-11 4-907-611-01	(TC-V710WR)KNOB, POWER		74 75	3-325-018-01 3-329-949-01	KNOB, TAPE SELECT	
56 57	4-875-466-00 7-685-646-71	, , , , , , , , , , , , , , , , , , ,		76 77 78	3-329-961-01 3-329-962-01	KNOB (RIGHT), VOL	
58 59	3-323-415-01 *3-329-948-01	KNOB, SWITCH TIMER		78 79	7-685-871-01 *3-329-957-01	SCREW +BVTT 3X6 (S) PLATE (L), SHIELD	
60	4-836-939-00	(TC-V70WR)WASHER, 3.1		80 81	7-627-553-17 3-329-966-01	SCREW, PRECISION +P 2X2	
61 62 63	3-329-973-01 X-3329-908-1 X-3313-214-1	SPRING (TC-V710WR)BUTTON (A) ASSY(1), (TC-V70WR)BUTTON (A) ASSY(2),	CONTROL	82 83	7-685-134-19		TYPE2 N-S
64	*4-352-844-01	PIN, LEAD, COATING	1	903 904	*A-2056-316-A *A-2056-313-A		IS
65 66	3-329-959-01	(TC-V710WR)KNOB, 10 KEY	s)	905	*1-618-743-11 *1-618-746-11	PC BOARD, EQ (TC-V70WR)PC BOARD, METER	
67 68 69	4-906-205-01 *3-329-958-01 9-911-839-XX	(TC-V710WR)HOLDER, 10 KEY		906 907	*1-618-744-11 *1-548-596-11	PC BOARD, CONTROL SWITCH COUNTER, TAPE (MIDDLE TYPE)	

(3)



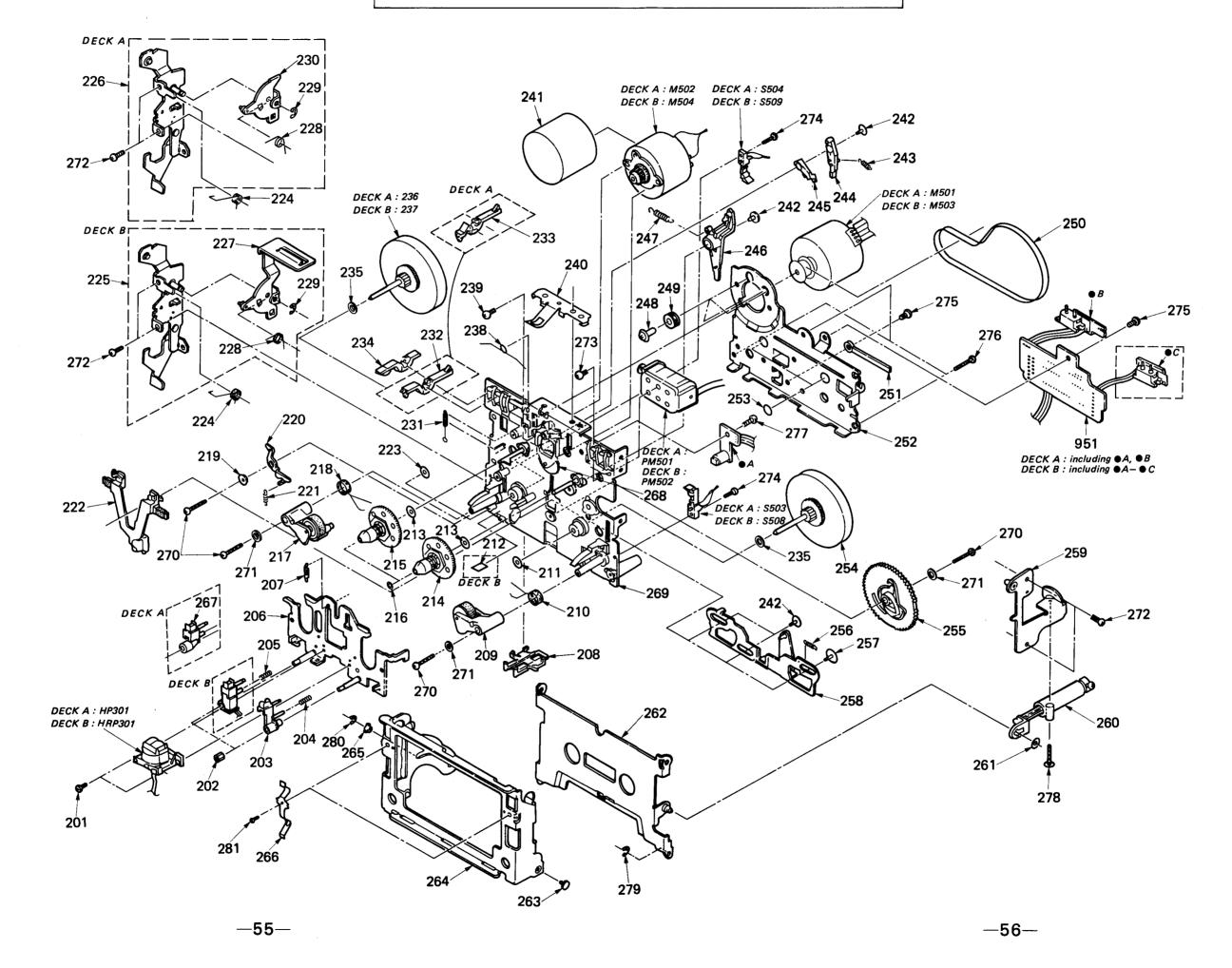
No.	Part No.	Description Remar	rks No	<u>o.</u>	Part No.	Description	Remarks
101	*3-329-968-11	(TC-V710WR:E)CHASSIS	1	80	*1-615-062-11	(TC-Y710WR:AEP)PC BOAR	
	3-329-968-21	(TC-V710WR:AEP)CHASSIS	1	09 10	*1-618-748-11 1-533-162-00	(TC-V710WR:UK)PC BOAR (TC-V710WR)HOLDER,	
	3-329-968-31 3-329-968-51	(TC-V710WR:UK)CHASSIS (TC-V70WR)CHASSIS			1 -553-102-00 1 -551-427-11	(TC-V710WR:AEP)CORD, P	
102	7-685-752-04	SCREW +BVTT 3X8 (S)	91	12	A.1-551-479-00	(TC-V710WR:E)CORD, P	OWER .
103	7-685-871-01	SCREW +BVTT 3X6 (S)			▲.1-556-560-00	(TC-V710WR:UK)CORD, P	
104	*3-329-950-01	BRACKET, PC BOARD	91	14	∆.1-526-751-11	(TC-V71OWR:UK)OUTLET,	AC
105	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6			∆. 1-526-794-11	(TC-V710WR:AEP)OUTLET,	
100	2 702 244 22	(TO UZ10UD 150 UV) DUCUTUO (0104)		16	1-526-609-00 1.1-526-609-00	(TC-V710WR:E)CONNECT	OR, IC OUILE!
106	3-703-244-00 3-703-571-00	(TC-V710WR:AEP,UK)BUSHING (2104), (TC-V710WR:E)BUSHING (S)(4516), CO		M701	*1-558-235-11	(TC-V710WR)CORD (WITH	CONNECTOD)
	3-703-571-00	(10-1/10MK.E)BUSHING (5)(4510), CO	יט נאל	4701	. 1-330-233-11	(IC-F/IONK)CORD (MIIII	(REMITE IN)
107	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	CN	N702	*1-558-235-11	(TC-V710WR)CORD (WITH	CONNECTOR)
108		(TC-V710WR)SCREW +BVTP 2.6X8					(REMOTE OUT)
109	*3-332-444-01		CN	N703	1-558-520-31	(TC-V710WR)CORD (WITH	
110 111	*4-909-528-01		-		A 1 522 250 00	FUCE TIME 1 86 (1 66)	(SYNC)
111	3-701-748-00	CLAMP	F1		<u>∧</u> .1-532-259-00 ∧ .1-532-259-00	FUSE, TIME-LAG (1.6A) FUSE, TIME-LAG (1.6)	
112	3-701-417-00	PURSE LOCK (11 DIA.))F3		⚠.1-532-078-00	(TC-V710WR:AEP)FUSE, T	IME IUG (1A)
113	2-056-666-00		F3		A.1-532-259-00	(TC-V710WR:UK)FUSE, T	
114	3-315-159-00	PURSE LOCK (14 DIA.)	1			The second secon	
901	*A-2056-309-A				1-448-377-11	(TC-V710WR:AEP)TRANSFO	
	*A-2056-312-A	(TC-V710WR)MOUNTED PCB, AUDIO	TI		A.1-448-378-11 A.1-570-307-11	(TC-V710WR:E)TRANSFO (TC-V710WR:E)SWITCH, V	
			l a s	ЭΙ	W*1-310-301-11	(IC-ALTOMETET: 2MITTER! A	OF IME SHURDE

The components identified by shading and mark A are critical for safety.
Replace only with part number specified.

Les composants identiliés par une trame et une marque A sont critiques pour la sécrité. Ne les remplacer que lar une pièce portant le uméro spécifié.

No.	Part No.	Description Remar	ks No.	<u>.</u>	Part No.	Description	Remarks
201 202 203	3-391-109-01 3-391-110-01 3-391-111-01	NUT, ÁDJUSTMENT	249 250 251)	3-391-138-01 3-391-134-01 3-701-822-00		
204 205 206	3-391-113-01	SPRING (RIGHT) SPRING (LEFT) PLATE ASSY, HEAD	252 253 254	3	*3-391-130-01 3-391-129-01 X-3391-113-1	SPACER	
207 208 209	3-391-114-01 3-391-137-01 X-3391-104-1	SPRING HOLDER, LEAD PINCH ROLLER ASSY	255 256 257	5	3-391-128-01 3-391-127-01 3-391-143-01	SPRING	
210 211 212	3 - 391-119 <i>-</i> 01	SPRING (RIGHT) WASHER, OIL SEAL (DECK B)REFLECTOR	258 259 260	9 1	X-3391-112-1 *3-391-144-01 *X-3391-115-1		
213 214 215	3-327-708-31 X-3391-107-1 X-3391-106-1	REEL ASSY, T.U	261 262 263	2	*3-391-148-01 3-391-149-01 3-391-152-01	PLATE, ORNAMENTAL	
216 217 218	3-701-436-11 X-3391-105-1 3-391-116-01	WASHER, 1.6 PINCH ROLLER ASSY SPRING (LEFT)	264 265 266)	3-391-150-01 3-391-153-01 3-391-151-01		
219 220 221	3-391-120-01 3-391-121-01 3-391-122-01	ARM, EJECT SAFETY	267 268 269	3	3-391-156-01 X-3391-111-1 X-3391-110-1		
222 223 224	X-3391-108-1 3-391-117-01 3-391-154-01	SEAL, WASHER OIL	270 271 272		7-688-001-11	SCREW +P 2X12 TYPE2 SLIT W 2, MIDDLE SCREW +PTT 2.6X4 (S)	
225 226 227	X-3391-116-1	(DECK B)ARM ASSY, EJECT (DECK A)ARM ASSY, EJECT (DECK B)LEVER (B), EJECT	273 274 275		7-628-253-95 7-685-104-14 7-685-781-04	SCREW +PS 2.6X4 SCREW +P 2X6 TYPE2 SLIT SCREW +BVTT 2X4 (S)	
228 229 230	3-391-146-01 7-624-105-04 *3-391-145-01	SPRING (B) STOP RING 2.3, TYPE -E (DECK A)LEVER (B), EJECT	276 277 278		7-685-105-14	SCREW +P 2.6X4 TYPE2 NON-SLIT SCREW +P 2X8 TYPE2 SLIT SCREW, TOTSU PWH 2X12	
231 232 233	3-391-139-01 3-391-157-01 *3-391-155-01	SPRING (DECK B)LEVER, REC INSPECTION (DECK A)LEVER, CHROME INSPECTION	279 280 281	ı	7-624-102-04 7-624-104-04 7-685-780-01		
234 235 236	3-701-438-11	LEVER, PACK INSPECTION WASHER, 2.5 (DECK A)F/W ASSY	HP30 HRP3 M50	301	X-3391-123-1	(DECK A)HEAD ASSY, ROTARY (DECK B)HEAD ASSY, ROTARY	
237 238 239	3-391-124-01	(DECK B)F/W ASSY SPRING SCREW, WASHER	M503 M503 M504	2 3	X-3391-117-1 X-3391-118-1 X-3391-117-1 X-3391-118-1	(DECK A)MOTOR ASSY, REEL	
240 241 242	3-391-125-01 3-391-132-01 3-391-126-01	SPRING PLATE, SHIELD CAP	PM50 PM50	02	1-454-428-11 1-454-428-11	(DECK A)SOLENOID, PLUNGER (DECK B)SOLENOID, PLUNGER	
243 244 245	3-391-140-01 3-391-142-01 3-391-141-01	SPRING (A) ARM (B) ARM (A)	S503 S504	3	8-729-900-74 1-570-719-11 1-570-721-11	(DECK A)SWITCH, LEAF (DECK A)SWITCH, LEAF	
246 247 248	X-3391-114-1 3-391-133-01 3-391-147-01	ARM ASSY, PLAY SPRING SCREW, MOTOR FITTING	S508 S509		1-570-719-11 1-570-721-11	(DECK B)SWITCH, LEAF (DECK B)SWITCH, LEAF	





TC-V70WR/V710WR TC-V70WR/V710WR

SECTION 6 ELECTRICAL PARTS LIST

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be antici-pated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS: MF:μF, PF:μμF.

RESISTORS

· All resistors are in ohms. · F : nonflammable

COILS · MMH : mH, UH : µH SEMICONDUCTORS

In each case, U : μ, for example:
UA...: μΑ..., UPA...: μΡΑ..., UPC...: μΡC,
UPD...: μPD...

The components identified by shading and mark Aare critical for safety.

Replace only with part number specified.

Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

ELECTRICAL PARTS

Ref.No.	Part No.	Description	!			Ref.No.	Part No.	Description			
901	*A-2056-309-A *A-2056-312-A	(TC-V70WR). (TC-V710WR)	MOUNTED F	PCB, AU	DIO DIO	C128 C129 C130	1-162-284-31 1-136-273-91 1-136-271-00	FÎLM	150PF 75PF 56PF	10% 5% 5%	50V 630V 630V
902	*A-2056-314-A *1-618-747-11	PC BOARD, D	IR			C132	1-123-612-00	ELECT	2.2MF	20%	50 V
903	*A-2056-316-A	(TC-V710WR)	PC BOARD	ASSY,	RMS	C133 C134	1-123-611-00 1-124-907-00		1MF 10MF	20% 20%	50V
904	*A-2056-313-A *1-618-743-11	PC BOARD AS	SY, EQ Q			C138	1-110-206-00	MYLAR	0.0082MF	5%	50V 50V
905	*1-618-746-11	(TC-V70WR).	PC BOARD.	MFTFR		C139 C140	1-110-195-00 1-110-200-00		0.001MF 0.0027MF	5% 5%	50 V 50 V
906 907	*1-618-744-11 *1-548-596-11	PC BOARD, C	ONTROL SWITC	:H		C141	1-110-206-00	MYLAR	0.0082MF	5%	50 V
908	*1-615-062-11	/TC V710UD.	4ED \ DC DC	480 E	ICE	C142 C143	1-110-204-00		0.0056MF	5%	50V
909	*1-618-748-11		IK)PC BC	MARD, FL	OUTLET	C143	1-110-199-00 1-110-195-00	MYLAR MYLAD	0.0022MF 0.001MF	5% 5%	50V 50V
910	1-533-162-00				001221	02	1 110 133 00	I'II LAK	0.001	3.6	204
fidirum <u>usektrak</u> au			•		eser of the	C145	1-110-197-00		0.0015MF	5%	507
911 /	1-551-427-11	(TC-V710WR:	AEP)CORD,	POWER	EULO PLUG	C146	1-110-201-00		0.0033MF	5%	50 Y
913 2	A. 1-551-479-00 A. 1-556-560-00	(TC-V710WR:1	E)CORD, UK)CORD,	POWER		C147 C148	1-110-204-00 1-162-282-31		0.0056MF	5%	50V
OIA /	1.1-526-751-1 1	(TC_V710WP-1	IV) OUTLE	T 10		C149	1-162-282-31	CERAMIC	100PF 100PF	10% 10%	50V 50V
915 /	A.1-526-794-11	(TC-V710WR:/	AEP)OUTLE	T. AC		C150	1-162-290-31	CERAMIC	470PF	10%	50¥ 50¥
916 /	1-526-609-0 0	(TC-V710WR:	E)CONNECT	OR, AC	OUTLET					102	301
C101	1 104 007 11	FLECT	4 745	000	5011	C201	1-124-927-11		4.7MF	20%	50V
C101 C102	1-124-927-11 1-124-904-00		4.7MF 2.2MF	20% 20%	50 V 50 V	C202 C203	1-124-904-00 1-124-927-11		2.2MF 4.7MF	20%	50V
C103	1-124-927-11		4.7MF	20%	50 V	0203	1-124-32/-11	ELECT	4./ 4	20%	50 V
						C204	1-162-289-31	CERAMIC	390PF	10%	50V
C104	1-162-289-31		390PF	10%	50V	C205	1-136-157-00	FILM	0.022MF	5%	50V
C105 C106	1-136-157-00 1-124-183-00		0.022MF 2.2MF	5% 20%	50V 50V	C206	1-124-183-00	ELECT	2.2MF	20%	507
C100	1-124-103-00	ELECT	2.2141	20.6	50¥	C207	1-110-203-00	MYI AR	0.0047MF	5%	50 V
C107	1-110-203-00	MYLAR	0.0047MF	5%	50V	C208	1-162-303-31	CERAMIC	0.0033MF	30%	16V
C108	1-162-303-31		0.0033MF	30%	167	C209	1-162-289-31	CERAMIC	390PF	10%	50V
C109	1-162-289-31	CERAMIC	390PF	10%	50 V	2010	1 100 157 00				
C110	1-136-157-00	ETIM	0.022MF	5%	50V	C210 C211	1-136-157-00		0.022MF	5%	50V
C111	1-124-183-00		2.2MF	20%	50V 50V	C212	1-124-183-00 1-162-304-31	ELECT CEDAMIC	2.2MF 0.0047MF	20% 30%	50V 16V
C112	1-162-304-31		0.0047MF	30%	167	0212	1 102 504 51	CERAMIC	0.0047141	30%	104
						C213	1-124-904-00	ELECT	2.2MF	20%	50 Y
C113	1-124-904-00		2.2MF	20%	50V	C214	1-110-203-00	MYLAR	0.0047MF	5%	50V
C114 C115	1-110-203-00 1-136-173-00		0.0047MF 0.47MF	5% 5%	50V 50V	C215	1-136-173-00	FILM	0.47MF	5%	50¥
0113	1-130-173 00	ILL	0.47/14	Jø	301	C216	1-136-167-00	FILM	0.15MF	5%	50 y
C116	1-136-167-00	FILM	0.15MF	5%	50V	C217	1-136-155-00		0.015MF	5%	50 y
C117	1-136-155-00		0.015MF	5%	50 V	C218	1-136-169-00		0.22MF	5%	50V
C118	1-136-169-00	FILM	0.22MF	5%	50 V	0010	1 126 162 00				
C119	1-136-163-00	FILM	0.068MF	5%	50V	C219 C220	1-136-163-00 1-136-161-00	FILM	0.068MF	5%	50Y
C120	1-136-161-00		0.047MF	5%	50V	C221	1-110-205-00	MYLAR	0.047MF 0.0068MF	5% 5%	50V 50V
C121		MYLAR	0.0068MF	5%	50V			THE PAR	0.000011	36	301
01.00		E*. U	0.011-	5 ~	5011	C222	1-136-153-00		0.01MF	5%	50 Y
C122 C123	1-136-153-00		0.01MF	5%	500	C223	1-124-927-11	-	4.7MF	20%	50V
C123	1-124-927-11 1-124-183-00		4.7MF 2.2MF	20% 20%	50V 50V	C224	1-124-183-00	ELECT	2.2MF	20%	50V
O.L.	* 154 103-00		C • C!'II	LUB	301	C225	1-124-927-11	ELECT	4.7MF	20%	50 Y
C125	1-124-927-11	ELECT	4.7MF	20%	50V	C226	1-124-892-11		47MF	20%	107
C126	1-124-892-11		47MF	20%	107	C227			0.033MF	5%	50V
C127	1-136-159-00	FILM	0.033MF	5%	507						

ELECTRICAL PARTS ELECTRICAL PARTS Description Ref.No. Part No.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
C228 C229 C230	1-162-284-31 1-136-273-91 1-136-271-00	FILM	150PF 75PF 56PF	10% 5% 5%	50V 630V 630V	C504 C506 C507 C508	1-124-892-11 1-162-029-00 1-162-029-00 1-124-904-00	CERAMIC CERAMIC	47MF 47PF 47PF 2.2MF	20% 5% 5% 20%	10V 50V 50V 50V
C232 C233 C234	1-123-612-00 1-123-611-00 1-124-907-00	ELECT	2.2MF 1MF 10MF	20% 20% 20%	50V 50V 50V	C509 C510 C511	1-124-904-00 1-124-892-11 1-124-892-11	ELECT ELECT	2.2MF 47MF 47MF	20% 20% 20% 20%	50V 10V 10V
C238 C239 C240	1-110-206-00 1-110-195-00 1-110-200-00	MYLAR MYLAR	0.0082MF 0.001MF 0.0027MF	5% 5% 5%	50V 50V 50V	C512 C513 C514	1-162-304-31 1-124-904-00 1-124-904-00	CERAMIC	0.0047MF 2.2MF 2.2MF	30% 20% 20%	16V 50V 50V
C241 C242 C243	1-110-206-00 1-110-204-00 1-110-199-00	MYLAR	0.0082MF 0.0056MF 0.0022MF	5% 5% 5%	50V 50V 50V	C515 C516 C517	1-124-470-11 1-124-903-00 1-162-100-00	ELECT	470MF 1MF 150PF	20% 20% 10%	6.3V 50V 50V
C244 C245 C246	1-110-195-00 1-110-197-00 1-110-201-00	MYLAR	0.001MF 0.0015MF 0.0033MF	5% 5% 5%	50V 50V 50V	C518 C519 C520	1-162-100-00 1-162-294-31 1-162-306-31	CERAMIC CERAMIC	150PF 0.001MF 0.01MF	10% 10% 30%	50 V 50 V 16 V
C247 C248 C249	1-110-204-00 1-162-282-31 1-162-282-31	CERAMIC CERÁMIC	0.0056MF 100PF 100PF	5% 10% 10%	50 V 50 V 50 V	C521 C522 C523	1-162-306-31 1-162-306-31 1-162-306-31	CERAMIC CERAMIC	0.01MF 0.01MF 0.01MF	30% 30% 30%	16V 16V 16V
C250 C301 C302	1-162-290-31 1-124-892-11 1-124-892-11	ELECT	470PF 47MF 47MF	10% 20% 20%	50V 10V 10V	C524 C525 C526	1-124-892-11 1-162-306-31 1-161-494-00	ELECT CERAMIC	47MF 0.01MF 0.022MF	20% 30% 30%	10V 16V 25V
C305 C306 C307	1-124-444-00 1-124-444-00 1-124-444-00	ELECT	220MF 220MF 220MF	20% 20% 20%	10V 10V 10V	C527 C528 C529	1-162-304-31 1-161-974-00 1-162-306-31	CERAMIC CERAMIC	0.0047MF 0.1MF 0.01MF	30% 20% 30%	16V 16V 16V
C308 C309 C310	1-124-444-00 1-124-927-11 1-124-892-11	ELECT	220MF 4.7MF 47MF	20% 20% 20%	10V 50V 10V	C530 C531 C532	1-161-494-00 1-162-306-31 1-162-306-31	(TC-V70WR)((TC-V70WR)(CERAMIC 0.02 CERAMIC 0.01	2MF 309 MF 309	25V % 16V % 16V
C311 C313 C314	1-124-892-11 1-130-336-00 1-124-904-00	FILM	47MF 0.0068MF 2.2MF	20% 10% 20%	10V 630V 50V	C533 C534 C536	1-124-902-00 1-124-902-00 1-124-904-00	ELECT ELECT	0.47MF 0.47MF 2.2MF	20% 20% 20%	50V 50V 50V
C315 C316 C317	1-130-289-00 1-130-285-00 1-130-285-00	FILM FILM	0.0047MF 0.0033MF 0.0033MF	5% 5% 5%	100V 100V 100V	CN301 CN302	*1-564-506-11 *1-564-506-11 *1-564-708-11	PLUG, CONNECT	TOR 3P TOR 3P		
C318 C319 C320	1-124-903-00 1-124-927-11 1-124-903-00	ELECT ELECT	1MF 4.7MF 1MF	20% 20% 20%	50V 50V 50V	CN305	*1-564-705-11 *1-564-708-11 *1-564-507-11	PIN, CONNECTO	OR (SMALL TY	PE) 3P PE) 6P	
C324	1-124-892-11 1-124-892-11 1-124-472-11	ELECT ELECT	47MF 47MF 470MF	20% 20% 20%	10V 10V 10V	CN309	*1-564-506-11 *1-564-506-11 *1-564-507-11	PLUG, CONNECT	TOR 3P		
C325 C326 C327	1-124-473-11 1-124-443-00 1-123-321-00	ELECT ELECT	1000MF 100MF 220MF	20% 20% 20%	10V 10V 16V	CN322	*1-564-338-00 *1-564-666-11 1-562-068-13	(TC-V710WR) (TC-V710WR) (TC-V70WR)	PIN, CONNE	CTOR 10F	
C328 C329 C330	1-123-321-00 1-124-557-11 1-124-557-11	ELECT ELECT	220MF 1000MF 1000MF	20% 20% 20%	16V 25V 25V	CN510	*1-564-507-11 *1-564-509-11	PLUG, CONNECT	TOR 4P	EN CONTR	ROL 1)
C331 C332 C334	1-124-481-11 1-124-470-11 1-124-907-00	ELECT ELECT	22MF 470MF 10MF	20% 20% 20%	25V 6.3V 50V	CN512	*1-564-509-11 *1-564-507-11 *1-564-512-41	PLUG, CONNECT PLUG, CONNECT PLUG, CONNECT	TOR 4P		
C337 C338 C339	1-124-898-11 1-124-904-00 1-124-904-00	ELECT ELECT	4700MF 2.2MF 2.2MF	20% 20% 20%	16V 50V 50V		*1-564-706-11 *1-564-709-11	PIN, CONNECTO PIN, CONNECTO			
C340 C341 C342	1-123-822-00 1-124-892-11 1-124-907-00	ELECT ELECT	47MF 47MF 10MF	20% 20% 20%	10V 10V 50V		*1-564-513-11 1-562-068-13	(TC-V710WR)	SOCKÉT, CO	NE CTOR	
C343 C501 C502 C503	1-124-907-00 1-124-892-11 1-124-892-11 1-124-892-11	ELECT ELECT	10MF 47MF 47MF 47MF	20% 20% 20% 20%	50V 10V 10V 10V		*1-558-235-11 *1-558-235-11	(TC-V710WR)	•	IR EMOTE	IN) FOR)

ELECTRICAL PARTS

ELECTRICAL PARTS

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
CN703	1-558-520-31	(TC-V710WR)CORD (WITH CONNECTOR) 3P			DIODE 1SS202-1
CN703	*1-560-280-00	(SYNC) (TC-Y710WR)CONNECTOR PIN 3P	D713 D714		DIODE 1SS202-1 DIODE 1SS202-1
CT312	1-141-225-00	CAP, TUNING, TRIMMER	D715		DIODE 1SS202-1
D101	1-806-968-11	DIODE (LED BLOCK) DIODE (LED BLOCK) DIODE (LED BLOCK)	D716 D717	8-719-107 - 94 8-719-107 - 94	DIODE 1SS202-1 DIODE 1SS202-1
D102 D201	1-806-968-11	DIODE (FED BLOCK)			DIODE 1SS202-1 DIODE 1SS202-1
D202	1-806-967-11	DIODE (LED BLOCK) DIODE 1SS202-1	D720		DIODE 155202-1
D301 D302		DIODE 1SS202-1	D721 D722		DIODE 1SS202-1 DIODE 1SS202-1
D303 D304	8-719-200-02 8-719-200-02				DIODE 1SS202-1
D305	8-719-200-02		D802 D804		DIODE 1SS202-1 DIODE 1SS202-1
0306 0307	8-719-200-02 8-719-910-61	DIODE 10E2 DIODE H76All			(TC-Y710WR)DIODE BR3422S
D308	8-719-107-94	DIODE HZ6A1L (TC-V710WR)DIODE 1SS202-1	D805	8-719-919-26	(TC-V7OWR)DIODE GL-9PR23
D309 D310	8-719-910-68 8-719-107-94	DIODE HZ6C2L (TC-Y710WR)DIODE 1SS202-1	D806 D806		(TC-Y710WR)DIODE BR3422S (TC-Y70WR)DIODE GL-9PR23
D312	8-719-200-02		0808		(TC-Y710WR)DIODE AA3422S
0313 0314		DIODE 1SS202-1 DIODE 10F2	D808	8-719-919-27	(TC-V70WR)DIODE GL-9HY23
D315	8-719-107-94	(TC-V710WR)DIODE 1SS202-1	D809 D810	8-719-107-94 8-719-107-94	DIODE 1SS202-1 DIODE 1SS202-1
D316 D317	8-719-200-02 8-719-107-94	DIODE 10E2 DIODE 1SS202-1 DIODE 10E2	D811	8-719-107-94	DIODE 188202-1
D502					DIODE 1SS202-1 DIODE 1SS202-1
D503 D504	8-719-107-94 8-719-107-94	DIODE 1SS202-1 DIODE 1SS202-1 DIODE 1SS202-1			DIODE GL-9NG260
D505	8-719-107-94	DIODE 1SS202-1			DIODE GL-1EG102 DIODE GL-9NG260
D506 D507	0-/13-10/-34	DIODE 133202-1	D817	8-719-936-63	DIODE GL-9NDOO2
D508		DIODE 188202-1	D818 D819	8-719-936-63 8-719-918-67	DIODE GL-9NDO02 DIODE GL-1EG102 DIODE GL-1HY102 DIODE BG3422S
D509 D510		DIODE 1SS202-1 DIODE 1SS202-1	D820 D821	8-719-918-66 8-719-919-30	DIODE GL-1HY102 DIODE BG3422S
D513	8-719-107-94	(TC-V710WR)DIODE 1SS202-1	F1 A	.1-532-259-00	FUSE TIME-LAG (1.6A)
D515 D516	8-719-107-94 8-719-107-94	DIODE 1SS202-1 DIODE 1SS202-1 DIODE 10E2	F2 <u>A</u>	,1-532-259-00	FUSE, TIME-LAG (1.6A)
D517	8-719-200-02	DIODE 10E2	F3 <u>A</u> F3 <u>A</u>	.1-532-078-00 .1-532-259-00	(TC-Y710WR:AEP)FUSE, TIME LUG (1A) (TC-Y710WR:UK)FUSE, TIME LUG (1.6A)
D518 D519	8-719-107-94	DIODE 1SS202-1 DIODE 1SS202-1	HP301	X-3391-102-1	(DECK A)HEAD ASSY, ROTARY
D520		DIODE 1SS202-1	HRP301	X-3391-123-1	(DECK B)HEAD ASSY, ROTARY
D521 D522	8-719-107-94	DIODE 1SS202-1 DIODE 1SS202-1		8-759-912-79	
D523	8-719-107-94	DIODE 155202-1		8-759-912-79 8-759-145-58	
D526 D527		DIODE 1SS202-1 DIODE 1SS202-1		8-759-601-43	
D528		DIODE 155202-1		8-759-600-02 8-759-601-43	IC M4066BP
D529 D701	8-719-301-55	DIODE 1SS202-1 DIODE SEL2813A-C		8-759-602-01	
D702		DIODE SEL2813A-C		8-759-602-01 8-752-018-70	
D703 D704 D705	8-719-301-55	DIODE SEL2813A-C DIODE SEL2813A-C DIODE SEL2813A-C		8-759-106-61 8-759-603-20	
D705	8-719-301-55	DIODE SEL2813A-C		8-759-145-58	
D707 D708	8-719-301-55	DIODE SEL2813A-C DIODE SEL2813A-C DIODE SEL2813A-C	1		IC M50761-417P
D708	8-719-301-55	DIODE SEL2813A-C DIODE SEL2813A-C	J301		IC LM6416E-1979 (TC-V710WR)JACK (PHONES)
D710 D711	8-719-301-55	DIODE SEL2813A-C DIODE 1SS202-1	J302	1-507-908-11	
	0 /15 101-34	DIODE IDOEDE I	3000		

The components identified by shading and mark A are critical for safety.
Replace only with part number specified.

Les composants identifi€s par une trame et une marque A sont critiques pour la sécuri té.
Ne les remplacer que pur une pièce portant le numero spécifié.

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ELECTRICAL PARTS

ELECTRICAL PARTS

	LLLCINIC	AL FARIS		ELLCINIC	AL FARTS
Ref.No. Pa	rt No.	Description	Ref.No.	Part No.	Description
L101 1- L102 1- L103 1-	-408-929-00 -408-924-00 -408-924-00	Description MICRO INDUCTOR 27MMH MICRO INDUCTOR 10MMH MICRO INDUCTOR 10MMH	Q514 Q515 Q516	8-729-103-43	TRANSISTOR 2SC2120-Y TRANSISTOR 2SB734-4 TRANSISTOR 2SC2120-Y
L201 1- L202 1- L203 1-	-408-929-00 -408-924-00 -408-924-00	MICRO INDUCTOR 27MMH MICRO INDUCTOR 10MMH MICRO INDUCTOR 10MMH MICRO INDUCTOR 220UH	Q517 Q518 Q519	8-729-205-02 8-729-205-02	TRANSISTOR 2SC2120-Y TRANSISTOR 2SA1150 TRANSISTOR 2SA1150
		FILTER, LOW PASS FILTER, LOW PASS	Q520 Q521 Q522	8-729-900-74	TRANSISTOR DTC143TS TRANSISTOR DTC143TS TRANSISTOR DTC143TS
M501 X- M502 X- M503 X- M504 X-	-3391-117-1 -3391-118-1 -3391-117-1 -3391-118-1	(DECK A)MOTOR ASSY, CAPSTAN (DECK A)MOTOR ASSY, REEL (DECK B)MOTOR ASSY, CAPSTAN (DECK B)MOTOR ASSY, REEL	Q523 Q524 Q525	8-729-900-61 8-729-900-61	TRANSISTOR DTC143TS TRANSISTOR DTA114ES TRANSISTOR DTA114ES
PM501 1- PM502 1-	-454-428-11 -454-428-11	(DECK A)SOLENOID, PLUNGER (DECK B)SOLENOID, PLUNGER	Q526 Q527 Q528	8-729-900-61	TRANSISTOR DTA114ES TRANSISTOR DTA114ES TRANSISTOR DTA114ES
Q102 8- Q103 8-	-729 – 900–74 -729 – 194–57	TRANSISTOR 2SC945-P TRANSISTOR DTC143TS TRANSISTOR 2SC945-P	Q529 Q530 Q531	8-729-900-74	TRANSISTOR DTA114ES TRANSISTOR DTC143TS (TC-Y70WR)TRANSISTOR DTC114ES
Q104 8- Q105 8- Q106 8-	-729-194-57 -729-194-57 -729-194-57	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P	Q533 Q534 Q535	8 - 729-194-57	TRANSISTOR DTC143TS TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P
Q201 8-	-729 – 194 – 57	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR DTC143TS	Q536 Q538 Q539	8 - 729-194-57	TRANSISTOR DTC114ES TRANSISTOR 2SC945-P TRANSISTOR DTC144ES
Q204 8-	729-194-57	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P	Q540 Q541 Q542	8 - 729-900 - 65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR DTC144ES
Q207 8 -	-729 - 194-57	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR DTC143TS	Q543 Q544 Q545	8 - 729-900-65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR DTA144ES
Q303 8-	729-194-57	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR 2SC2785	Q546 Q547 Q548	8-729-900-65 8-729-900-65 1-807-509-11	TRANSISTOR DTA144ES TRANSISTOR DTA144ES PHOTO SENSOR
Q306 8-	-729 – 178 – 54	TRANSISTOR DTA114ES TRANSISTOR 2SC2785 TRANSISTOR 2SD1406	Q549 Q550 Q551	1-807-509-11 X-3391-124-1 8-729-212-02	PHOTO SENSOR (DECK B) Q SENSOR ASSY TRANSISTOR 2SC2120-Y
Q308 8- Q309 8- Q310 8-	-729-178-54 -729-194-57 -729-204-83	TRANSISTOR 2SC2785 TRANSISTOR 2SC945-P TRANSISTOR 2SA1048-GR	Q552 Q554 Q556	8-729-900-80	TRANSISTOR DTC114ES TRANSISTOR DTC114ES TRANSISTOR DTA114ES
0312 8-	729-204-83 729-111-67 729-201-78	TRANSISTOR 2SA1048-GR TRANSISTOR 2SB1094-L TRANSISTOR 2SD1406-0	Q558 Q559 Q560	8-729-204-83 8-729-900-61 8-729-900-61	TRANSISTOR 2SA1048-GR TRANSISTOR DTA114ES TRANSISTOR DTA114ES
0318 8-	729-194-57 729-194-57 729-900-65	TRANSISTOR 2SC945-P TRANSISTOR 2SC945-P TRANSISTOR DTA144ES	Q561 Q562 Q564	8-729-900-61 8-729-900-61 8-729-900-61	TRANSISTOR DTA114ES TRANSISTOR DTA114ES TRANSISTOR DTA114ES
Q503 8-	729 - 212 - 02	TRANSISTOR DTC144ES TRANSISTOR 2SC2120-Y TRANSISTOR 2SC2120-Y	Q565 Q566 Q567	8-729-900-61 8-729-900-80 8-729-900-74	TRANSISTOR DTA114ES TRANSISTOR DTC114ES TRANSISTOR DTC143TS
Q506 8-	729-103-43	TRANSISTOR DTC114ES TRANSISTOR 2SB734 TRANSISTOR DTA144ES	Q568 Q701 Q702	8-729-900-74 8-729-117-54 8-729-117-54	(TC-V710WR)TRANSISTOR DT C143TS TRANSISTOR 2SA1175 TRANSISTOR 2SA1175
0509 8-	729-103 -4 3	TRANSISTOR DTA144ES TRANSISTOR 2SB734 TRANSISTOR 2SC2120-Y	Q703 Q704 Q705	8-729-117-54 8-729-117-54 8-729-117-54	TRANSISTOR 2SA1175 TRANSISTOR 2SA1175 TRANSISTOR 2SA1175
0512 8-	729 – 205–02	TRANSISTOR 2SC2120-Y TRANSISTOR 2SA1150 TRANSISTOR 2SA1150	Q706 Q707	8-729-271-02 8-729-271-02	TRANSISTOR 2SC2710 TRANSISTOR 2SC2710

ELECTRICAL PARTS

ELECTRICAL PARTS

Ref.No.	Part No.	Description			ı	Ref.No.	Part No.	Description			
R101	1-247-713-11	CARBON	1K	5%	1/4W	R166	1-247-887-00	CARBON	220K	5%	1/6W
R102	1-247-167-00	CARBON	33K	5%	1/4W	R167	1-249-437-11	CARBON	47K	5%	1/6W
R103	1-249-433-11	CARBON	22K	5%	1/6W	R168	1-249-437-11	CARBON	47K	5%	1/6W
R104	1-247-843-00	CARBON	3.3K	5%	1/6W	R169	1-249-405-11	CARBON	100	5%	1/6W
R105	1-249-417-11	CARBON	1K	5%	1/6W	R170	1-249-429-11	CARBON	10K	5%	1/6W
R106	1-247-851-00	CARBON	6.8K	5%	1/6W	R171	1-249-422-11	CARBON	2.7K	5%	1/6W
R107	1-247-887-00	CARBON	220K	5%	1/6W	R172	1-247-846-00	CARBON	4.3K	5%	1/6W
R108	1-247-717-11	CARBON	2.2K	5%	1/4W	R173	1-249-421-11	CARBON	2.2K	5%	1/6W
R109	1-249-441-11	CARBON	100K	5%	1/6W	R174	1-249-405-11	CARBON	100	5%	1/6W
R112	1-249-441-11	CARBON	100K	5%	1/6W	R175	1-247-849-00	CARBON	5.6K	5%	1/6W
R113	1-249-433-11	CARBON	22K	5%	1/6W	R176	1-249-417-11	CARBON	1K	5%	1/6W
R114	1-249-429-11	CARBON	10K	5%	1/6W	R177	1-247-843-00	CARBON	3.3K	5%	1/6W
R115	1-247-860-00	CARBON	16K	5%	1/6W	R178	1-249-417-11	CARBON	1K	5%	1/6W
R116	1-247-857-00	CARBON	12K	5%	1/6W	R179	1-249-441-11	CARBON	100K	5%	1/6W
R117	1-249-425-11	CARBON	4.7K	5%	1/6W	R180	1-249-425-11	CARBON	4.7K	5%	1/6W
R118	1-249-435-11	CARBON	33K	5%	1/6W	R181	1-249-441-11	CARBON	100K	5%	1/6W
R119	1-247-704-11	(TC-V710WR)	•CARBO	N 220	5% 1/4W	R182	1-249-425-11	CARBON	4.7K	5%	1/6W
R120	1-249-441-11	CARBON	100K	5%	1/6W	R183	1-249-459-11	CARBON	12K	5%	1/4W
R121	1-249-433-11	CARBON	22K	5%	1/6W	R201	1-247-713-11	CARBON	1K	5%	1/4W
R122	1-249-441-11	CARBON	100K	5%	1/6W	R202	1-247-167-00	CARBON	33K	5%	1/4W
R123	1-249-441-11	CARBON	100K	5%	1/6W	R203	1-249-433-11	CARBON	22K	5%	1/6W
R124	1-249-429-11	CARBON	10K	5%	1/6W	R204	1-247-843-00	CARBON	3.3K	5%	1/6W
R125	1-249-429-11	CARBON	10K	5%	1/6W	R205	1-249-417-11	CARBON	1K	5%	1/6W
R126	1-246-531-00	CARBON	270K	5%	1/4W	R206	1-247-851-00	CARBON	6.8K	5%	1/6W
R127	1-247-700-11	CARBON	100	5%	1/4W	R207	1-247-887-00	CARBON	220K	5%	1/6W
R128	1-246-524-00	CARBON	130K	5%	1/4W	R208	1-247-717-11	CARBON	2.2K	5%	1/4W
R129	1-247-149-00	CARBON	5.6K	5%	1/4W	R209	1-249-441-11	CARBON	100K	5%	1/6W
R130	1-247-857-00	CARBON	12K	5%	1/6W	R212	1-249-441-11	CARBON	100K	5%	1/6W
R131	1-247-859-00	CARBON	15K	5%	1/6W	R213	1-249-433-11	CARBON	22K	5%	1/6W
R132	1-247-887-00	CARBON	220K	5%	1/6W	R214	1-249-429-11	CARBON	10K	5%	1/6W
R133	1-247-843-00	CARBON	3.3K	5%	1/6W	R215	1-247-860-00	CARBON	16K	5%	1/6W
R135	1-247-887-00	CARBON	220K	5%	1/6W	R216	1-247-857-00	CARBON	12K	5%	1/6W
R136	1-247-851-00	CARBON	6.8K	5%	1/6W	R217	1-249-425-11	CARBON	4.7K	5%	1/6W
R137	1-249-417-11	CARBON	1K	5%	1/6W	R218	1-249-435-11	CARBON	33K	5%	1/6W
R138	1-249-425-11	CARBON	4.7K	5%	1/6W	R219	1-247-704-11	CARBON	220	5%	1/4W
R140	1-246-531-00	CARBON	270K	5%	1/4W	R220	1-249-441-11	CARBON	100K	5%	1/6W
R141	1-247-700-11	CARBON	100	5%	1/4W	R221	1-249-433-11	CARBON	22K	5%	1/6W
R142	1-246-524-00	CARBON	130K	5%	1/4W	R222	1-249-441-11	CARBON	100K	5%	1/6W
R143	1-247-149-00	CARBON	5.6K	5%	1/4W	R223	1-249-441-11	CARBON	100K	5%	1/6W
R144	1-247-857-00	CARBON	12K	5%	1/6W	R224	1-249-429-11	CARBON	10K	5%	1/6W
R145	1-247-887-00	CARBON	220K	5%	1/6W	R225	1-249-429-11	CARBON	10K	5%	1/6W
R146	1-247-859-00	CARBON	15K	5%	1/6W	R226	1-246-531-00	CARBON	270K	5%	1/4W
R149	1-249-441-11	CARBON	100K	5%	1/6W	R227	1-247-700-11	CARBON	100	5%	1 /4 W
R150	1-249-441-11	CARBON	100K	5%	1/6W	R228	1-246-524-00	CARBON	130K	5%	1 /4 W
R152	1-247-843-00	CARBON	3.3K	5%	1/6W	R229	1-247-149-00	CARBON	5.6K	5%	1 /4 W
R153	1-247-851-00	CARBON	6.8K	5%	1/6W	R230	1-247-857-00	CARBON	12K	5%	1/6W
R154	1-247-822-00	CARBON	430	5%	1/6W	R231	1-247-859-00	CARBON	15K	5%	1/6W
R155	1-247-846-00	CARBON	4.3K	5%	1/6W	R232	1-247-887-00	CARBON	220K	5%	1/6W
R156	1-247-840-00	CARBON	2.4K	5%	1/6W	R233	1-247-843-00	CARBON	3.3K	5%	1 /6 W
R157	1-247-851-00	CARBON	6.8K	5%	1/6W	R235	1-247-887-00	CARBON	220K	5%	1 /6 W
R158	1-249-415-11	CARBON	680	5%	1/6W	R236	1-247-851-00	CARBON	6.8K	5%	1 /6 W
R159	1-249-429-11	CARBON	10K	5%	1/6W	R237	1-249-417-11	CARBON	1K	5%	1 /5 W
R161	1-249-421-11	CARBON	2.2K	5%	1/6W	R238	1-249-425-11	CARBON	4.7K	5%	1 /5 W
R162	1-249-429-11	CARBON	10K	5%	1/6W	R240	1-246-531-00	CARBON	270K	5%	1 /4 W
R163	1-249-417-11	CARBON	1K	5%	1/6W	R241	1-247-700-11	CARBON	100	5%	1 AW
R164	1-249-441-11	CARBON	100K	5%	1/6W	R242	1-246-524-00	CARBON	130K	5%	1 AW
R165	1-249-421-11	CARBON	2.2K	5%	1/6W	R243	1-247-149-00	CARBON	5.6K	5%	1 AW
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ELECTRICAL PARTS

ELECTRICAL PARTS

	LLLOTRIO	AL TAKES					ELLOTRIC	TAL TAKIS				
Ref.No.	Part No.	Description				Ref.No.	Part No.	Description				
R245	1-247-857-00 1-247-887-00 1-247-859-00	CARBON	12K 220K 15K	5% 5% 5%	1/6W 1/6W 1/6W	R322 R323 R324	1-247-717-11 1-247-717-11 1-247-717-11	CARBON	2.2K 2.2K 2.2K	5%	1/4W 1/4W 1/4W	
R250	1-249-441-11 1-249-441-11 1-247-843-00	CARBON	100K 100K 3.3K	5%	1/6W 1/6W 1/6W	R325 R326 R327	1-247-717-11 1-247-717-11 1-247-713-11	CARBON	2.2K 2.2K 1K		1/4W 1/4W 1/4W	
R254	1-247-851-00 1-247-822-00 1-247-846-00	CARBON	6.8K 430 4.3K	5%	1/6W 1/6W 1/6W	R328 R329 R330	1-247-717-11 1-247-725-11 1-247-717-11	(TC-V710WR)	2.2K .CARBON 2.2K	10K	1/4W 5% 1/4W	1/4W
R257	1-247-840-00 1-247-851-00 1-249-415-11	CARBON	2.4K 6.8K 680		1/6W 1/6W 1/6W	R331 R332 R334	1-249-429-11 1-249-405-11 1-247-837-00	(TC-V710WR)	10K .CARBON 1.8K		1/6W 5% 1/6W	1/6W
R261	1-249-429-11 1-249-421-11 1-249-429-11	CARBON	10K 2.2K 10K	5% 5% 5%	1/6W 1/6W 1/6W	R335 R336 R337	1-249-421-11 1-249-417-11 1-249-429-11	CARBON	2.2K 1K 10K	5% 5% 5%	1/6W 1/6W 1/6W	
R264	1-249-417-11 1-249-441-11 1-249-421-11	CARBON	1K 100K 2.2K		1/6W 1/6W 1/6W	R338 R339 R340	1-249-417-11 1-249-429-11 1-247-817-00	CARBON	1K 10K 270	5% 5% 5%	1/6W 1/6W 1/6W	
R267	1-247-887-00 1-249-437-11 1-249-437-11	CARBON	220K 47K 47K	5% 5% 5%	1/6W 1/6W 1/6W	R341 R342 R343	1-249-437-11 1-249-425-11 1-249-437-11	CARBON	4.7K	5% 5% 5%	1/6W 1/6W 1/6W	
R270	1-249-405-11 1-249-429-11 1-249-422-11	CARBON	100 10K 2.7K	5% 5% 5%	1/6W 1/6W 1/6W	R344 R345 R346	1-249-417-11 1-249-425-11 1-249-441-11	CARBON	1K 4.7K 100K	5%	1/6W 1/6W 1/6W	
R273	1-247-846-00 1-249-421-11 1-249-405-11	CARBON	4.3K 2.2K 100		1/6W 1/6W 1/6W	R347 R348 R349	1-247-887-00 1-249-425-11 1-249-441-11	CARBON	220K 4.7K 100K	5%	1/6W 1/6W 1/6W	
R276	1-247-849-00 1-249-417-11 1-247-843-00	CARBON	5.6K 1K 3.3K	5%	1/6W 1/6W 1/6W	R350 ⚠ R351 丞 R352	.1-213-036-00 .1-213-036-00 1-247-833-00	(TC-V710WR) (TC-V710WR) CARBON	FUSIBL FUSIBL 1.2K	E 1	5% 5% 1/6W	Market Market
R279	1-249-417-11 1-249-441-11 1-249-425-11	CARBON	1K 100K 4.7K		1/6W 1/6W 1/6W	R353 R354 R355	1-247-851-00 1-249-441-11 1-247-843-00	(TC-V710WR) CARBON CARBON	CARBON 100K 3.3K	5%	K 5% 1/6W 1/6W	1/6W
R282	1-249-441-11 1-249-425-11 1-249-459-11	CARBON	100K 4.7K 12K		1/6W 1/6W 1/4W	R501 R503 R504	1-249-429-11 1-247-833-00 1-247-833-00	CARBON	1.2K	5%	1/6W 1/6W 1/6W	
R302	1-247-704-11 1-247-704-11 1-249-417-11	CARBON	220 220 1K	5% 5% 5%	1/4W 1/4W 1/6W	R506 R507 R508	1-249-421-11 1-249-429-11 1-247-859-00	CARBON		5%	1 /6W 1 /6W 1 /6W	
R305	1-247-704-11 1-247-704-11 1-249-437-11	CARBON CARBON CARBON	220 220 47K	5% 5% 5%	1/4W 1/4W 1/6W	R509 R510 R511	1-247-859-00 1-247-859-00 1-247-859-00	CARBON	15K !	5%	L /6W L /6W L /6W	
R308 <u></u>	1-247-819-00 1-217-385-00 1-247-859-00	CARBON FUSIBLE CARBON	330 6.8 15K	5% 5% 5%	1/6W 1/4W F 1/6W	R513 R514 R515		CARBON	1.8K !	5%	/6W 1/6W 1/6W	
R311	1-247-859-00 1-249-429-11 1-247-859-00	CARBON CARBON CARBON	15K 10K 15K	5% 5% 5%	1/6W 1/6W 1/6W	R516 R517 R518		CARBON	1.2K 5	5% 1	/6W /6W /6W	
R314	1-247-852-00 1-249-422-11 1-249-425-11	CARBON CARBON CARBON		5%	1/6W 1/6W 1/6W	R519 R520 R521		CARBON	1.2K 5	5% 1	/6W /6W /6W	
R317	1-247-859-00 1-249-425-11 1-214-777-00	CARBON CARBON METAL	15K 4.7K 100K	5%	1/6W 1/6W 1/4W	R523	1-247-833-00	CARBON	1.2K 5	% 1	/6W /6W	
R320	1-247-133-00 1-247-133-00 1-247-704-11	CARBON CARBON CARBON		5%	1/4W 1/4W 1/4W	R526	1-247-833-00	CARBON :	1.2K 5	% 1	/6W /6W	

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

ELECTRICAL PARTS

Ref.No.	Part No.	Description				ı	Ref.No.	Part No.	Description				
R529 R530 R531	1-247-405-11 1-247-811-00 1-247-795-00	CARBON CARBON CARBON	150 5	5% 5% 5%	1/6W 1/6W 1/6W		R588 R589 R590	1-249-405-11 1-249-433-11 1-247-783-00	CARBON CARBON CARBON	100 22K 10	5% 5% 5%	1/6W 1/6W 1/6W	
R532 R533 R534	1-247-805-00 1-247-795-00 1-249-405-11	CARBON CARBON CARBON	33 5	5%	1/6W 1/6W 1/6W		R591 R593 R594	1-249-417-11 1-249-429-11 1-249-429-11	CARBON CARBON CARBON	1K 10K 10K	5% 5% 5%	1/6W 1/6W 1/6W	
R535 R536 R537	1-247-795-00 1-247-805-00 1-249-405-11	CARBON CARBON CARBON	82 5	5% 5% 5%	1/6W 1/6W 1/6W		R595 R596 R597	1-249-441-11 1-249-441-11 1-249-441-11	CARBON CARBON CARBON	100K 100K 100K	5% 5% 5%	1/6W 1/6W 1/6W	
R538 R539 R540	1-247-795-00 1-249-405-11 1-249-429-11	CARBON CARBON CARBON	100 5	5% 5% 5%	1/6W 1/6W 1/6W		R598 R599 R600	1-249-441-11 1-247-783-00 1-247-783-00	CARBON CARBON CARBON	100K 10 10	5% 5% 5%	1/6W 1/6W 1/6W	
R541 R542 R543	1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON	2.2K 5		1/6W 1/6W 1/6W		R601 R602 R603	1-247-783-00 1-247-783-00 1-249-441-11	CARBON CARBON CARBON	10 10 100K	5% 5% 5%	1/6W 1/6W 1/6W	
R544 R545 R546	1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON	2.2K 5	5%	1/6W 1/6W 1/6W		R604 R605 R606	1-249-441-11 1-249-441-11 1-249-441-11	CARBON CARBON CARBON	100K 100K 100K	5% 5% 5%	1/6W 1/6W 1/6W	
R547 R548 R549	1-249-421-11 1-249-421-11 1-249-405-11	CARBON CARBON CARBON	2.2K 5	5%	1/6W 1/6W 1/6W		R607 R608 R609	1-249-441-11 1-247-903-00 1-249-429-11	CARBON CARBON CARBON	100K 1M 10K	5% 5% 5%	1/6W 1/6W 1/6W	
R551 R553 R554	1-249-429-11 1-249-425-11 1-249-417-11	(TC-V70WR) CARBON (TC-V710WR)	4.7K 5	5%	1/6W	1/6W 1/6W	R610 R611 R613	1-249-421-11 1-249-429-11 1-249-417-11	CARBON CARBON CARBON	2.2K 10K 1K	5% 5% 5%	1/6W 1/6W 1/6W	
R555 R556 R557	1-249-417-11 1-249-441-11 1-249-434-11	CARBON CARBON CARBON	100K 5	5%	1/6W 1/6W 1/6W		R614 R615 R616	1-249-417-11 1-249-429-11 1-249-429-11	CARBON CARBON CARBON	1K 10K 10K	5% 5% 5%	1/6W 1/6W 1/6W	
R558 R559 R560	1-249-429-11 1-247-815-00 1-249-441-11	CARBON CARBON CARBON	220 5	5%	1/6W 1/6W 1/6W		R621 R622 R623	1-249-434-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON	27K 1K 1K	5% 5% 5%	1/6W 1/6W 1/6W	
R561 R562 R563	1-249-429-11 1-249-417-11 1-247-704-11	CARBON CARBON CARBON	1K 5	1%	1/6W 1/6W 1/4W		R624 R625 R626	1-249-417-11 1-249-417-11 1-249-405-11	CARBON CARBON (TC-V7OWR)	1K 1K .CARBON	5% 5% N 100	1/6W 1/6W 5%	1/6W
R564 R566 R567	1-249-429-11 1-249-441-11 1-249-441-11	CARBON CARBON CARBON	100K 5	1%	1/6W 1/6W 1/6W		R627 R628 R629	1-247-815-00 1-249-421-11 1-249-441-11	CARBON CARBON CARBON	220 2.2K 100K	5% 5% 5%	1/6W 1/6W 1/6W	
R568 R569 R570	1-249-429-11 1-249-421-11 1-249-441-11	CARBON CARBON CARBON		%	1/6W 1/6W 1/6W		R634 <u>A</u> R635 R636	1-206-467-00 1-247-903-00 1-249-422-11	METAL OXIDE CARBON CARBON	15 1M 2.7K	5% 5% 5%	2W 1/6W 1/6W	· F
R571 R572 R574	1-247-843-00 1-249-441-11 1-249-429-11	CARBON CARBON CARBON	3.3K 5 100K 5 10K 5	%	1/6W 1/6W 1/6W		R637 R639 R640	1-249-417-11 1-249-405-11 1-249-405-11	CARBON CARBON CARBON	1K 100 100	5% 5% 5%	1/6W 1/6W 1/6W	
R575 R576 R577	1-247-853-00 1-247-837-00 1-249-441-11	CARBON CARBON CARBON	8.2K 5 1.8K 5 100K 5	%	1/6W 1/6W 1/6W		R701 R702 R703	1-249-421-11 1-249-421-11 1-249-437-11	CARBON CARBON CARBON	2.2K 2.2K 47K	5% 5% 5%	1/6W 1/6W 1/6W	
R578 R579 R580	1-249-417-11 1-249-441-11 1-249-429-11	CARBON CARBON CARBON	1K 5 100K 5 10K 5	%	1/6W 1/6W 1/6W		R704 R705 R706	1-249-437-11 1-249-437-11 1-249-437-11	CARBON CARBON CARBON	47K 47K 47K	5% 5% 5%	1/6W 1/6W 1/6W	
R581 R581 R582	1-247-873-00 1-249-441-11 1-249-417-11	(TC-V710WR) (TC-V70WR)					R707 R708 R709	1-249-437-11 1-249-437-11 1-249-421-11	CARBON CARBON CARBON	47K 47K 2.2K	5% 5% 5%	1/6W 1/6W 1/6W	
R583 R584	1-249-429-11 1-247-873-00	CARBON (TC-V70WR)	10K 5	% 56K	1/6W 5%	· .	R710 R711 R712	1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON	2.2K 2.2K 2.2K	5% 5% 5%	1/6W 1/6W 1/6W	
R584 R585 R586 R587	1-249-437-11 1-249-441-11 1-247-857-00 1-249-432-11	(TC-V710WR) CARBON CARBON CARBON	.CARBON 100K 59 12K 59 18K 59	% %	5% 1/6W 1/6W 1/6W	1/6W	R713 R714 R715	1-249-421-11 1-249-405-11 1-249-405-11	CARBON CARBON CARBON	2.2K 100 100	5% 5% 5%	1/6W 1/6W 1/6W	
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The components identified by shading and mark ∧ are critical for safety.

Replace only with part number specified.

Les composants identifiés par une trame et une marque ∧ sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R716 R717 R718	1-249-405-11 1-249-405-11 1-249-405-11	CARBON 100 5% 1/6W
R719 R720 R721	1-249-405-11 1-249-405-11	- · · ·
R722	1-249-405-11	CARBON 100 5% 1/6W
R723	1-249-405-11	CARBON 100 5% 1/6W
R724	1-247-903-00	CARBON 1M 5% 1/6W
R725	1-249-441-11	CARBON 100K 5% 1/6W
R726	1-249-425-11	CARBON 4.7K 5% 1/6W
R727	1-249-441-11	CARBON 100K 5% 1/6W
R728 R729 R730	1-249-441-11 1-247-903-00 1-247-903-00	CARBON 100K 5% 1/6W CARBON 1M 5% 1/6W CARBON 1M 5% 1/6W
RV101 RV102 RV103 RV104	1-228-994-00 1-228-994-00	RES, VAR, SLIDE 20K (REC LEVEL L) RES, ADJ, CARBON 10K RES, ADJ, CARBON 10K RES, ADJ, CARBON 10K
RV201 RV202 RV203 RV204	1-228-994-00	RES, VAR, SLIDE 20K (REC LEVEL R) RES, ADJ, CARBON 10K RES, ADJ, CARBON 10K RES, ADJ, CARBON 10K
RV501	1-228-995-00	RES, ADJ, CARBON 22K
RV502	1-228-995-00	RES, ADJ, CARBON 22K
RV503	1-228-995-00	RES, ADJ, CARBON 22K
RV504	1-228-995-00	RES, ADJ, CARBON 22K
RV505	1-228-995-00	RES, ADJ, CARBON 22K
RY301	1-515-547-11	RELAY
\$301 \$302 \$303 <u>∧</u>	1-570-499-11 1-554-168-00 . 1-570-103-21	SWITCH, PUSH (3 KEY)(MODE) SWITCH, SLIDE (DOLBY NR) (TC-V710WR)SWITCH, PUSH(1 KEY)(POWER)
S501	1-570-720-11	SWITCH, PUSH (1 KEY)
S502	1-570-720-11	SWITCH, PUSH (1 KEY)
S503	1-570-719-11	(DECK A)SWITCH, LEAF
S504	1-570-721-11	(DECK B)SWITCH, LEAF
S505	1-570-722-11	SWITCH, PUSH (1 KEY)
S506	1-570-720-11	SWITCH, PUSH (1 KEY)
S507	1-570-720-11	SWITCH, PUSH (1 KEY)
\$508	1-570-719-11	(DECK A)SWITCH, LEAF
\$509	1-570-721-11	(DECK B)SWITCH, LEAF
S519	1-554-168-00	SWITCH, SLIDE (TIMER)
S520	1-554-168-00	SWITCH, SLIDE (DIRECTION MODE)
\$701 \$702 \$703 \$704 \$705	1-553-856-00 1-553-856-00 1-553-856-00 1-553-856-00 1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/1) (TC-V710WR)SWITCH, KEY BOARD (RMS/2) (TC-V710WR)SWITCH, KEY BOARD (RMS/3) (TC-V710WR)SWITCH, KEY BOARD (RMS/4) (TC-V710WR)SWITCH, KEY BOARD (RMS/5)
\$706	1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/6)
\$707	1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/7)
\$708	1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/8)
\$709	1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/9)
\$710	1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (RMS/10)
\$711 \$712	1-553-856-00 1-553-856-00	(TC-V710WR)SWITCH, KEY BOARD (CLEAR) (TC-V710WR)SWITCH, KEY BOARD (CHECK)

ELECTRICAL PARTS

Ref.No.	Part No.	Description
\$801 \$802 \$804	1-553-856-00 1-553-856-00 1-553-856-00	SWITCH, KEY BOARD (NORMAL SPEED) SWITCH, KEY BOARD (HIGH SPEED) SWITCH, KEY BOARD (AUTO PAUSE)
\$805 \$806 \$807	1-553-856-00	SWITCH, KEY BOARD (A/REW) SWITCH, KEY BOARD (A/REV) SWITCH, KEY BOARD (A/STOP)
\$808 \$809 \$810	1-553-856-00	SWITCH, KEY BOARD (A/FWD) SWITCH, KEY BOARD (A/FF) SWITCH, KEY BOARD (B/REW)
	1-553-856-00 1-553-856-00 1-553-856-00	SWITCH, KEY BOARD (B/REV) SWITCH, KEY BOARD (B/STOP) SWITCH, KEY BOARD (B/FWD)
	1-553-856-00 1-553-856-00 1-553-856-00	SWITCH, KEY BOARD (B/FF) SWITCH, KEY BOARD (B/REC) SWITCH, KEY BOARD (B/PAUSE)
S817 S818		SWITCH, KEY BOARD (B/REL MUTE) SWITCH, KEY BOARD (AMS/BS)
	1-235-186-00 1-235-186-00	ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT
	.1-448-377-11 .1-448-378-11	(TC-V710WR:AEP)TRANSFORMER, POWER (TC-V710WR:E)TRANSFORMER, POWER
T301	1-433-308-11	TRANSFORMER, BIAS OSCILLATION
	E*1-564-505-11 *1-564-505-11 *1-564-505-11	
X501 X502	1-527-802-00 1-527-532-00	OSCILLATOR, CERAMIC, 3.58MHz OSCILLATOR, CERAMIC, 400kHz
VS1 🛦	.1-570-307-11	(TC-V710WR:E)SWITCH, VOLTAGE CHANGE

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-551-734-11 1-558-233-11	(TC-V710WR)CORD, CONNECTION (RK-74A (TC-V710WR)CORD(WITH CONNECTOR)(SIRC
3-312-970-00 3-312-976-00	(TC-V70WR)SHEFT, PROTECTION (TC-V710WR)SHEET, PROTECTION, PANEL
3-325-013-01 3-329-931-31 3-329-931-41	(TC-V70WR)CUSHION (TC-V710WR:E)INDIVIDUAL CARTON (TC-V710WR:AEP,UK)INDIVIDUAL CARTON
*3-329-932-01 *3-329-933-01	(TC-V710WR)CUSHION (LEFT), UPPER (TC-V710WR)CUSHION (LEFT), LOWER
*3-329-934-01 *3-329-935-01	(TC-V710WR)CUSHION (RIGHT), LOWER (TC-V710WR)CUSHION (RIGHT), UPPER
3-701-630-00 3-765-151-11 3-765-151-41	(TC-V710WR)BAG, POLYETHYLENE (TC-V710WR)MANUAL, INSTRUCTION (TC-V710WR:AEP)MANUAL, INSTRUCTION
4-605-140-01	(TC-V710WR)SHEET. PROTECTION

The components identified by shading and mark A are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.